

FRIDAY AFTERNOON

MAY 4

F
R
I1. **BACK TO SCHOOL: A REVIEW OF FOUR FAST-MOVING FIELDS****Committee-Sponsored Session***Sponsored by the AAI Program Committee*

FRI. 2:30 PM—ROOM 17AB

CHAIRS: E.M. Oltz, J.A. Punt

This workshop intends to bring a broad audience up-to-date on a few emerging or rapidly changing fields or areas of technological innovation. Expert lecturers will provide an overview of each trending topic with an emphasis on communicating big picture concepts.

- 2:30 Update on immunometabolism and how to fuel immunity. **J. Rathmell**. Vanderbilt Univ.
- 3:00 Cell death in the immune system. **D. Hildeman**. Cincinnati Children's Hosp. Med. Ctr.
- 3:30 Chromatin conformation and epigenetics of the antigen receptor loci shape emerging immune repertoires. **A. Feeney**. Scripps Res. Inst.
- 4:00 Defining essential features of epitope-specific T cell receptor repertoires responding to pathogens and tumors. **P. Thomas**. St. Jude Children's Res. Hosp.

2. **INFLUENCE OF CYTOKINES AND CHEMOKINES ON REGIONAL IMMUNITY****Block Symposium**

FRI. 2:30 PM—ROOM 16AB

CHAIRS: G. Trevejo-Nunez, C. Raman

- 2:30 Glucocorticoids inhibit group 3 innate lymphocyte IL-22 production. **L. Zenewicz, S. Seshadri and R. Pope**. Univ. of Oklahoma Hlth. Sci. Ctr. (43.1)
- 2:45 More than a decoy receptor? Interleukin 22 Binding Protein (IL-22BP) in bacterial pneumonia. **G. Trevejo-Nunez, P. Castillo, K. Chen and J. Kolls**. Univ. of Pittsburgh and Tulane Univ. Sch. of Med. (43.2)
- 3:00 Exacerbation of intestinal IL-17 activity by mycoplasma superantigen leads to increased HMGB1 and chemokines in the joints of autoimmune arthritis mice. **H-H. Mu and J. Tran**. Univ. of Utah Sch. of Med. (43.3)
- 3:15 The damage signal IL-33 facilitates focal immune responses to *Toxoplasma gondii* in the brain. **K. Still, J. Thompson, S. Batista, N. Hayes and T. Harris**. Univ. of Virginia Sch. of Med. (43.4)

- 3:30 Defective Microglia-Neuronal Communication during Demyelinating Disease Correlates with Altered Neurogenesis. **A. Cardona, K. Church, A. Mendiola, S. Cardona, D. Vanegas, C. Garcia, D. Luera, S. Lira, E. Kokovay and C.-H. A. Lin**. Univ. of Texas, San Antonio, Univ. of California, San Francisco, Icahn Sch. of Med., Mount Sinai and Univ. of Texas Hlth. Sci. Ctr., San Antonio. (43.5)

- 3:45 T cell restricted TGF- β 3 (betaglycan) null mice develop exacerbated experimental autoimmune encephalomyelitis (EAE) associated with expanded generation of Th1 cells. **S. Duesman, C. Ren, R. Chellappan, C. Sestero, R. Kesterson, P. De Sarno, G. Soldevila and C. Raman**. Univ. of Alabama, Birmingham, Univ. of Montevallo and Natl. Autonomous Univ. of Mexico, Mexico. (43.6)

- 4:00 IL7R regulates fetal tissue resident macrophage development. **G. Leung, T. McCann, C. Forsberg, Anna Beaudin**. Univ. of California, Merced and Univ. of California Santa Cruz. (43.7)

- 4:15 IL-7 promotes naïve T cell motility and regulates T cell-dendritic cell contacts in the lymph node via JAK/STAT signaling. **J. R. Byrum, David Torres, P. Mrass, S. Oruganti and J. Cannon**. Univ. of New Mexico Sch. of Med. and Northern New Mexico Col. (43.8)

3. **T LYMPHOCYTES AND TREGS: ACTIVATION, DIFFERENTIATION, AND TOLERANCE****Block Symposium**

FRI. 2:30 PM—ROOM 10AB

CHAIRS: T. Burt, N. Singh

- 2:30 Neurokinin 1 receptor-signaling sustains T-cell survival during thymus development and following T-cell activation in secondary lymphoid organs. **A. Larregina, T. Sumpter, D. Rojas-Canales, O. Tkacheva, W. Shufesky, L. Faló and A. Morelli**. Univ. of Pittsburgh Sch. of Med. (47.15)
- 2:45 Subset-specific neurotransmitter receptor expression tunes T cell activation. **K. Rosenberg and N. Singh**. Univ. of Maryland, Baltimore. (47.22)



FRIDAY—PM

- 3:00 Glutamate receptors provide costimulatory signals to improve T cell immune response. **A. Shanker, M.T. de Aquino, T. Hodo and R. Uzhachenko.** Meharry Med. Col. Sch. of Med. and Vanderbilt Univ. Sch. of Med. (47.24)
- 3:15 Activation induced decrease and recovery of TCR 2D affinity and bond lifetime. **R. Andargachew, E. Kolawole and B. Evavold.** Emory Univ. and Univ. of Utah Sch. of Med. (47.17)
- 3:30 Tregs orchestrate antigen specific suppression via stripping cognate peptide-MHCII from the DC surface. **B. Akkaya, M. Akkaya, Y. Oya, J. A. Souza, A. Holstein, O. Kamenyeva, J. Kabat, D. Dorward, D. Glass and E. Shevach.** NIAID, NIH. (47.2)
- 3:45 Fetal naive T cells are primed for preferential regulatory T cell differentiation through increased chromatin accessibility and expression at the Helios locus. **M. Ng and T. Burt.** Univ. of California, San Francisco. (47.12)
- 4:00 Transcriptional profiling of pathogen-specific CD4 T cells reveals key events that regulate Th17 cell priming and differentiation. **Y. Gao, K. Deason, A. Jain, I. Dozmorov, E. Wakeland and C. Pasare.** Univ. of Texas Southwestern Med. Ctr. (47.7)
- 4:15 GDF15 and BMP4 co-regulate stress erythropoiesis and Treg induction to maintain erythroid homeostasis and resolve inflammation during infection. **J. Fraser, A. Dey, S. Nettleford, L. Zhao, P. Hankey-Giblin, K. Prabhu, N. Xiong and R. Paulson.** Pennsylvania State Univ. (47.14)
- 3:30 Immune regulation by glucocorticoids can be linked to cell-lineage-specific transcriptional responses. **L. Franco, M. Gadkari, K. Howe, J. Sun, P. Kumar, L. Kardava, A. Biancotto, Z. Hu, I. Fraser, S. Moir, R. Germain and J. Tsang.** NIAID, NIH and NIH Clin. Ctr. Pharmacy. (48.7)
- 3:45 Uracil DNA Glycosylase of Gammaherpesvirus alters somatic hypermutation through error-free DNA repair. **Y. Mu, Q. Dong, M. Zelazowska, Z. Chen, J. Plummer, L. Krug and K. McBride.** The Univ. of Texas MD Anderson Cancer Ctr. and Stony Brook Univ. (48.12)
- 4:00 Role of E3 ubiquitin ligase GRAIL in B cell activation and tolerance. **R. Nurieva, S. Bieerkehazhi, T. Waseem, O. Hoang, A. Sahoo, A. Alekseev and E. Galkina.** MD Anderson Cancer Ctr. and Eastern Virginia Med. Sch. (48.14)
- 4:15 IRF4 regulates the rate of cell cycle during B cell differentiation. **D. Patterson, C. Scharer and J. Boss.** Emory Univ. Sch. of Med. (48.16)

5. REGULATORY MECHANISMS OF INNATE IMMUNE RESPONSES

Block Symposium

FRI. 2:30 PM—ROOM 18AB

CHAIRS: M. Colonna, E. Amiel

- 2:30 Regulatory circuits governing identity and function of human type 1 ILCs. **P. Collins, M. Cella, S. Porter, M. Mccullen, M. Colonna and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis. (170.2)
- 2:45 Identification of Trim29 as a Key checkpoint inhibitor of natural killer cell functions. **Y. Dou, J. Xing, X. Li and Z. Zhang.** Houston Methodist Res. Inst.. (170.24)
- 3:00 Ly49H-dependent IFN γ protein production by NK cells requires cytokine signaling that induces IFN γ mRNA transcription. **S. Piersma, M. Pak-Wittel and W. Yokoyama.** Washington Univ. in St. Louis. (170.9)
- 3:15 Commensal Bacteria Suppress Vitamin A Metabolism in the Intestinal Epithelium to Modulate IL-22 Activity in the Gut. **M. Grizotte-Lake and S. Vaishnav.** Brown Univ. (170.21)
- 3:30 Transient Receptor Potential Ankyrin 1 Mediates the Afferent Arm of the Inflammatory Reflex. **H. Silverman, M. Addorisio, T. Tsaava, A. Stiegler, A. Kressel, C. Chin, M. Gunasekaran, V. Pavlov, S. Chavan and K. Tracey.** Feinstein Inst. for Med. Res. and Zucker Sch. of Med. at Hofstra/Northwell. (170.27)

4. B CELL BIOLOGY

Block Symposium

FRI. 2:30 PM—ROOM 19AB

CHAIRS: L-A. Garrett-Sinha, A. Satterthwaite

- 2:30 NFAT1 nuclear translocation is impaired in murine newborn B lymphocytes. **J. Sakai, A. Coleman and M. Akkoyunlu.** CBER, FDA. (48.1)
- 2:45 Differential regulation of B cell responses to acute and chronic infection by histone-modifying complexes. **K. Good-Jacobson, A. Di Pietro, C. Yiannis and R. Farighi.** Monash Univ., Australia. (48.2)
- 3:00 IRF4 and IRF5 transcription factors exhibit shared and distinct roles in regulating human B cell differentiation and function. **T. Shih, S. De, B. Zhong and B. Barnes.** Feinstein Inst. for Med. Res. and Rutgers Univ., Pfizer, Inc. (48.3)
- 3:15 AKT targets CSK to regulate proximal BCR signaling in germinal center B cells. **W. Luo, W. Hawse, N. Trivedi, F. Weisel and M. Shlomchik.** Univ. of Pittsburgh. (48.4)

- 3:45 Sympathetic neural control of inflammation by ADRB2-mediated IL-10 secretion. **D. Agac, L. Estrada and J. Farrar.** Univ. of Texas Southwestern Med. Ctr. and St. Jude Children's Res. Hosp. (170.22)
- 4:00 Nitric oxide dictates the reprogramming of carbon flux during M1 macrophage polarization. **E. Palmieri, W. Baseler, L. Davies, M. Gonzalez-Cotto, B. Ghesquiere, T. Fan, A. Lane, D. Wink and D. McVicar.** NCI, NIH, Univ. of Leuven, Belgium and Univ. of Kentucky. (170.18)
- 4:15 The Role of Glycogen Metabolism in Glycolytic Reprogramming Required for Dendritic Cell Immune Responses. **E. Amiel and P. Thwe.** Univ. of Vermont. (170.6)
- 3:45 *In situ* vaccination improves efficacy of PD-1 blockade in unresponsive lymphoma tumors through induction of a highly efficient cross-presenting dendritic cell subset expressing TLR3. **L. Hammerich, M. Dhainaut, T. Keler, T. Davis, A. Salazar, B. Brown and J. Brody.** Icahn Sch. of Med., Mount Sinai, Celldex Therapeut. and Oncovir, Inc. (56.17)
- 4:00 Systemic dysregulation of antigen cross-presenting dendritic cells occurs early in preinvasive pancreatic neoplasia and is reversed by CD40 agonism. **J. Lin and R. Vonderheide.** Perelman Sch. of Med., Univ. of Pennsylvania. (56.18)
- 4:15 Cell death-inducing reagents activate cancer immune surveillance via inducing Interleukin-17D in macrophages. **R. Seelige and J. Bui.** Univ. of California, San Diego. (56.23)

6. MACROPHAGES AND MYELOID AND DENDRITIC CELLS IN TUMOR IMMUNITY AND IMMUNOTHERAPY

Block Symposium

FRI. 2:30 PM—ROOM 12AB

CHAIRS: L. Ehrlich, P. Rodriguez

- 2:30 Activation of host p53 enhances anti-tumor immunity by driving differentiation of immunogenic myeloid DCs in tumors, while simultaneously protecting against collateral autoimmunity against shared self-tumor antigens. **M. Sharma.** Georgia Cancer Ctr., Augusta Univ. (56.1)
- 2:45 Tumor-associated myeloid cells support T-ALL survival and proliferation through close contact. **A. Lyu, T. Triplett, W. Godfrey and Lauren Ehrlich.** Univ. of Texas, Austin. (56.6)
- 3:00 The DNA methyltransferase inhibitor, Guadecitabine, shifts myeloid derived suppressor cell phenotype from immune-suppressive toward immune-stimulatory. **A. Luker, L. Graham, C. Tolete, D. Conrad and H. Bear.** Massey Cancer Ctr. (56.9)
- 3:15 HMGN1 and R848 synergistically activate DCs by multiple signaling pathways. **M. Alam, D. Yang, A. Trivett and J Oppenheim.** NCI, NIH. (56.13)
- 3:30 TFEB regulates tumor-associated macrophages in breast cancer through autophagy-dependent and independent pathways. **D. Fan, J. Hodge and L. Fang.** Univ. of South Carolina Sch. of Med. (56.14)

7. T CELL RESPONSES DURING ACUTE AND CHRONIC VIRUS INFECTIONS

Block Symposium

FRI. 2:30 PM—ROOM 18CD

CHAIRS: N.J. Jiang, A. Johnson

- 2:30 Profiling TCR affinity distribution in human CD8+ T cell subsets responding to a cytomegalovirus epitope. **C. Williams, K. Ma, C. He, E. Sun, S. Zhang and N. Jiang.** Univ. of Texas, Austin. (61.5)
- 2:45 ZIKV-specific CD8 T cell immunity in humans is affected by DENV pre-exposure. **A. Grifoni, J. Baseler, B. Peters, M. L. de-Oliveira-Pinto, A. de Silva, A. Durbin, S. Diehl, E. Harris, J. Crowe, M. Busch, H. Vivanco-Cid, B. Graham, L. Turtle, E. Kallas, D. Watkins, D. Weiskopf and A. Sette.** La Jolla Inst. for Allergy and Immunology, Oswaldo Cruz Fndn., Brazil, Univ. of North Carolina, Chapel Hill, Johns Hopkins Bloomberg Sch. of Publ. Hlth., Univ. of Vermont, Univ. of California, Berkeley, Vanderbilt Univ. Med. Ctr., Blood Syst. Res. Inst., Instituto de Investigaciones Medico-Biologicas, Universidad Veracruzana, Veracruz, Mexico, NIAID, NIH, Univ. of Liverpool, United Kingdom, Univ. of São Paulo, Brazil, and Univ. of Miami Miller Sch. of Med. (61.8)
- 3:00 Virus antigen-specific CD8 T cells contribute to brain atrophy during Theiler's murine encephalomyelitis virus (TMEV) infection of the CNS. **M. Mix, V. Ruiz, A. H. Kelcher, S. Macura, P. Mishra and A. Johnson.** Mayo Clin., Minneapolis Med. Res. Fndn. and Univ. of Minnesota. (61.2)



FRIDAY—PM

- 3:15 Intranasal infection by MCMV reveals key roles for viral evasion of MHC-I to enable viral spreading and CD4 T cell help to promote functional CD8 T cell responses. **S. Zhang and C. Snyder.** Thomas Jefferson Univ. (61.4)
- 3:30 Priming of CD8 T cells in established chronic viral infection directs a distinct differentiation and functional program for long-term immunity. **L. Snell and D. Brooks.** Princess Margaret Hosp., Canada and Univ. of Toronto, Canada. (61.1)
- 3:45 Vitamin A deficiency provokes aberrant T cell responses and exacerbates liver injury in LCMV-infected mice. **Y. Liang, P. Yi and J. Sun.** Univ. of Texas Med. Br., Galveston. (61.7)
- 4:00 SIV-specific CD8 T cells are largely excluded from B cell follicles during early SIV infection. **S. Li, E. Connick and P. Skinner.** Univ. of Minnesota and Univ. of Arizona. (61.3)
- 4:15 Protease activated receptor-1 signaling: its potential implication in HIV driven immune activation, inflammation/coagulation. **H. Chen, M. Baseler, J. Herz, S. Gossa, T. Karpova, D. McGavern and M. Catalfamo.** NINDS, NIH, NCI, NIH, and Georgetown Univ. Sch. of Med. (61.6)

8. **AAI PRESIDENT'S ADDRESS**

President's Program

FRI. 5:00 PM—BALLROOM D

CHAIR: W.M. Yokoyama

PRESENTATION OF LIFETIME ACHIEVEMENT AWARD

Recipient: **L.H. Glimcher.** Dana-Farber Cancer Inst., Harvard Med. Sch.

PRESIDENT'S ADDRESS

5:05 Introduction. **E. Unanue.** Washington Univ. Sch. of Med.

5:10 50 years (well, almost!) in immunology. **W.M. Yokoyama.** Washington Univ. Sch. of Med. in St. Louis, AAI President.

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SATURDAY MORNING

MAY 5

9. MAJOR SYMPOSIUM A: TRANSCRIPTIONAL CONTROL OF IMMUNITY: DIVERSE REGULATORY MECHANISMS IN GENE REGULATION

Major Symposium

SAT. 8:00 AM—BALLROOM D

CHAIRS: A.S. Weinmann, B. Reizis

- 8:00 Role for metabolites in regulating cellular differentiation gene programs. **A. Weinmann**. Univ. of Alabama, Birmingham.
- 8:35 Transcriptional control of dendritic cell function in vivo. **B. Reizis**. New York Univ. Sch. of Med.
- 9:10 A histone “tail”: coordinating RNA splicing and histone modification—from yeast to macrophages. **T. Johnson**. Univ. of California, Los Angeles.
- 9:45 Regulation of innate immune cells by lncRNAs. **J. Henao-Mejia**. Univ. of Pennsylvania.
- 10:20 Molec. mechanisms defining tumor-specific T cell differentiation and dysfunction. **A. Schietinger**. Mem. Sloan Kettering Cancer Ctr.
- 10:55 Mechanisms regulating selective transcriptional responses to innate immune stimuli. **S. Smale**. Univ. of California, Los Angeles.

10. MAJOR SYMPOSIUM B: IMMUNE CELLS IN TISSUE NICHES

Major Symposium

SAT. 8:00 AM—BALLROOM EFG

CHAIRS: F. Geissmann, G. Diehl

- 8:00 Stromal niche in cancer immunology and immunotherapy. **S. Turley**. Genentech.
- 8:35 Roles of resident macrophages in brain, bone, and fat tissue homeostasis. **F. Geissmann**. Mem. Sloan Kettering Cancer Ctr.
- 9:10 CNS immunity: new players in neuroprotection. **R. Klein**. Washington Univ. Sch. of Med.
- 9:45 Maternal gut bacteria, immune cells, and neurodevelopmental disorder. **J. Huh**. Harvard Med. Sch.
- 10:20 Microbial regulation of intestinal immunity. **G. Diehl**. Baylor Col. of Med.
- 10:55 Regulation of Drosophila hemocyte number and sessility by an adipokine. **B. Lemaitre**. Global Hlth. Inst., EPFL Lausanne, Switzerland.

11. SOCIETY FOR IMMUNOTHERAPY OF CANCER (SITC) SYMPOSIUM: COMBINATION CANCER IMMUNOTHERAPY: EXPANDING CLINICAL SUCCESS

Guest Society Symposium

SAT. 8:00 AM—ROOM 12AB

CHAIRS: B.A. Fox, L. Emens

- 8:00 Dr. Jekyll and Mr. Hyde of combination checkpoint inhibition. **L. Fong**. Univ. of California, San Francisco.
- 8:30 Costimulation, combinations, and chronicity: does timing matter? **B. Curti**. Earle A. Chiles Res. Inst.
- 9:00 Emerging immunotherapy combinations for breast cancer. **L. Emens**. Johns Hopkins Univ.
- 9:30 Harnessing durable memory T cell responses against cancer. **C. Paulos**. Med. Univ. of South Carolina.

12. BASIC AUTOIMMUNITY: NOVEL MOLECULES

Block Symposium

SAT. 8:00 AM—ROOM 19AB

CHAIRS: E. Wakeland, V. Shapiro

- 8:00 Identification of immunological pathways altered by a pro-autoimmune genetic risk variant, PTPN22 1858C>T, that enhances the prevalence of Type 1 diabetes. **S. Schmiel, K. Marquardt, X. Lin and L. Sherman**. Scripps Res. Inst. (100.2)
- 8:15 ST8Sia6 attenuates diabetes progression and severity. **P. Belmonte, J. Y. Chung, S. R. Arocha, A. Schwab, M. Shapiro, B. Fife and V. Shapiro**. Mayo Clin. and Univ. of Minnesota. (100.13)
- 8:30 VLA4 expression by B cells enables B cell-restricted antigen presentation to support CD4 T cell driven central nervous system autoimmunity. **C. Parker Harp, A. Archambault, J. Sim, J. Carrero, J. Russell and G. Wu**. Washington Univ. in St. Louis. (100.12)
- 8:45 Identification of Btl2 as a key gene in suppressing autoimmunity: new players in SLE pathogenesis. **S. Khan, S-H. Hwang, K. Belobrajdic, K. Viswanathan, B. Wakeland, J. Casco and E. Wakeland**. Univ. of Texas Southwestern Med. Ctr. (100.3)
- 9:00 The kinase MAP4K3/GLK is a novel therapeutic target for IL-17A-mediated autoimmune diseases. **T. Tan and H-C. Chuang**. Natl. Hlth. Res. Inst., Taiwan. (100.15)
- 9:15 Neuropsychiatric lupus is lipocalin-2 dependent. **E. Mike, C. Cuda, H. Makinde, H. Perlman and C. Putterman**. Albert Einstein Col. of Med., Feinberg Sch. of Med., Northwestern Univ. (100.18)

SATURDAY—AM

- 9:30 Serum LTB₄, HODE13 and PLA2G7 as biomarkers of cardiovascular disease in SLE. **S. Baig, H. Ding, M. McMahon and C. Mohan.** Univ. of Houston and Univ. of California, Los Angeles. (100.10)
- 9:45 Identification of protein biomarkers in cerebrospinal fluid(CSF) of Neuro Psychiatric SLE(NPSLE) patients using SOMA scan assay. **K. Vanarsa, J. Hanly, C.C. Mok and C. Mohan.** Univ. of Houston, Dalhousie Univ. Med. Sch. and Tuen Mun Hosp., Hong Kong. (100.11)

13. INNATE IMMUNITY TO MICROBES I

Block Symposium

SAT. 8:00 AM—ROOM 16AB

CHAIRS: A. IZZO, A. MURTHY

- 8:00 T cell-independent mechanisms for protection against *Mycobacterium tuberculosis*. **A. Izzo, E. Creissen, L. Izzo, J. Troutd and T. Bickett.** Colorado State Univ. (114.15)
- 8:15 IL-18 from Batf3-dependent cells licenses natural killer cell IL-10 production during *Listeria monocytogenes* infection. **S. Clark, R. Schmidt, D. McDermott and L. Lenz.** Univ. of Colorado Sch. of Med. (114.1)
- 8:30 LIGHT-HVEM Signaling in Group3 Innate Lymphoid Cells Protects Against Enteric Bacterial Infection. **G-Y. Seo, J-W. Shui, D. Takahashi, C. Song, Q. Wang, K. Kim, Z. Mikulski, S. Chandra, D. Giles, S. Zahner, P-H. Kim, H. Cheroutre, M. Colonna and M. Kronenberg.** Kangwon Natl. Univ., South Korea, La Jolla Inst. for Allergy and Immunology, Academia Sinica, Taiwan, Keio Univ., Japan, Washington Univ. Sch. of Med. in St. Louis, Washington Univ. in St. Louis and Univ. of California, San Diego. (114.9)
- 8:45 Balance of IL-21 and type I IFN in the granzyme-dependent innate immune response to *Staphylococcus aureus*. **R. Spolski, E. West, P. Li, M. Kazemian and W. Leonard.** NHLBI, NIH. (114.13)
- 9:00 Tissue Specific Overexpression of Human Heat Shock Protein 70 in Mouse Oviduct Epithelium Reduces *Chlamydia* Induced Immunopathology. **A. Murthy, K. Keeler, J. Do, A. Seetharaman, K. Ramsey, M. Ciancio and W. Li.** Midwestern Univ. (114.20)
- 9:15 The Mammalian Target of Rapamycin (mTOR) / Peroxisome Proliferator-Activated Receptor axis (PPAR γ) drives immune dysfunction and outcome after burn injury. **R. Maile, W. Stepp, T. Eitas and B. Cairns.** Univ. of North Carolina, Chapel Hill and GlaxoSmithKline. (114.21)
- 9:30 Key role for CD103+ DCs in activating lung iNKT cells during *Streptococcus pneumoniae* infection. **C. Crosby, Z. Mikulski and M. Kronenberg.** La Jolla Inst. for Allergy and Immunology. (114.24)
- 9:45 Interferon-Independent Protection by Interferon Regulatory Factor 3. **C. Gyorke and U. Nagarajan.** Univ. of North Carolina, Chapel Hill. (114.25)

14. MICROBIAL, PARASITIC, AND FUNGAL IMMUNITY

Block Symposium

SAT. 8:00 AM—ROOM 18AB

CHAIRS: M. GONZALEZ JUARRERO, D. HERBERT

- 8:00 Novel M-CSF-producing $\gamma\delta$ T cells protect against recurrent malaria. **M. Mamedov, A. Scholzen, R. Nair, K. Cumnock, J. Kenkel, J. Oliveira, D. Trujillo, N. Saligrama, Y. Zhang, F. Rubelt, D. Schneider, Y-H. Chien, R. Sauerwein and M. Davis.** Stanford Univ. and Radboud Univ. Med. Ctr., Netherlands. (52.36)
- 8:15 Investigating local and systemic immune changes following sub-chronic inhalation of *Aspergillus versicolor* spores. **M. Barnes, T. Croston, A. Lemons, D. Beezhold and B. Green.** Ctr. for Dis. Control and Prevention Natl. Inst. for Occup. Safety and Hlth. (52.37)
- 8:30 A blood-based transcriptional signature in a novel murine tuberculosis model predicts risk of human tuberculosis progression. **C. Plumlee, B. Gern, F. Duffy, J. Delahaye, T. Rustad, J. Aitchison, D. Sherman, D. Zak, M. Gerner and K. Urdahl.** Ctr. for Infectious Dis. Res. and Univ. of Washington. (117.43)
- 8:45 The transcription factor Bhlhe40 is a novel regulator of large peritoneal macrophages and type 2 immunity. **N. Jarjour, T. Bradstreet, E. Schwarzkopf, C-C. Lin, M. Cook, S. Huang, R. Taneja, G. Randolph, J. Urban and B. Edelson.** Washington Univ. in St. Louis, Massachusetts Gen. Hosp., Natl. Univ. of Singapore, Singapore and USDA. (52.38)
- 9:00 Malnutrition Decreases both Effector and Memory CD4 T cells in Malaria Infection. **J. Pilotos, M. Smith, C. Johnson, L. Campbell, S. Ibitokou, R. Stephens and M. Opat.** Appalachian State Univ. and Univ. of Texas Med. Br. (52.39)
- 9:15 T cell IFN γ production is restricted within pulmonary tuberculosis granulomas. **B. Gern, C. Plumlee, M. Gerner and K. Urdahl.** Ctr. for Infectious Dis. Res., Univ. of Washington and Seattle Children's Res. Inst. (117.42)
- 9:30 A_{2B} Adenosine Receptor Signaling on Epithelial Cells Promotes Type 2 Immunity Against Helminths. **D. El-Naccache, F. Chen, M. Palma, W. Wu, B. Csoka, G. Hasko and W. Gause.** Rutgers New Jersey Med. Sch. (52.40)
- 9:45 Trogocytosis: a novel mechanism neutrophils use to kill a large, motile extracellular parasite. **F. Mercer, S. Hang Ng, T. Brown, G. Boatman and P. Johnson.** Univ. of California, Los Angeles and Pomona Col. (52.41)

15. REGULATION OF IMMUNITY IN THE SKIN AND LUNG MUCOSA

Block Symposium

SAT. 8:00 AM—ROOM 17AB

CHAIRS: D. Farber, J. Kohlmeier

- 8:00 Identification of functionally unique CD4 T cells that are the circulating counterparts of epidermal resident memory T cells. **P. Morawski, T. Duhen, M. Klicznik, B. Hoellbacher, S. Motley, D. Campbell and I. Gratz.** Benaroya Res. Inst., Univ. of Salzburg, Austria, Univ. of Washington and Paracelsus Med. Univ., Austria. (173.1)
- 8:15 Mucosal-associated invariant T cells respond to cutaneous microbiota. **M. Constantinides, S. Tamoutounour, J. Linehan, S. Sen, J. Shaik, S. Roy, J. LeGrand, E. Adams and Y. Belkaid.** NIAID, NIH, NCI, NIH and The Univ. of Chicago. (173.2)
- 8:30 A novel function of CCL27 in the localization of skin-homing CCR10+ lymphocytes. **M. Davila, N. Xiong.** Pennsylvania State Univ. (173.3)
- 8:45 T Cell-Directed IL-17 production by Lung Granular $\gamma\delta$ T cells is Coordinated by a Novel IL-2 and IL-1 β Circuit. **A. Menoret, J. Buturla, M. Xu, J. Svedova, S. Kumar, V. Rathinam and A. Vella.** Univ. of Connecticut Hlth. Ctr. (173.4)
- 9:00 Generation of specialized CD4 subsets: T_{FH} and ThCTL, requires signals from local antigen & infection during the effector phase. **P. Devarajan, Allen Vong, Catherine Castonguay, B. Bautista and S. Swain.** Univ. of Massachusetts Med. Sch. (173.5)
- 9:15 Cellular stress mediated by the local microenvironment regulates the homeostatic loss of tissue-resident memory CD8 T cells in different compartments of the lung. **S. Hayward, C. Scharer, S. Takamura, G. Kumar and J.J. Kohlmeier.** Emory Univ. Sch. of Med. and Kindai Univ. Fac. of Med. (173.6)
- 9:30 Lung tissue resident memory T cells coordinate effector T cell dynamics during the protective recall response to influenza. **D. Paik and D. Farber.** Columbia Univ. Med. Ctr. (173.7)
- 9:45 The natural suppression of respiratory CD8 T cell memory by monocyte-derived dendritic cells (moDC). **K. Reagin, C. Slade and K. Klonowski.** Univ. of Georgia. (173.8)

16. HOW TO CONVERT YOUR CV INTO A RESUMÉ

Career Development Session

Supported in part by a grant to the Federation of American Societies for Exptl. Biol. (FASEB) from the Natl. Inst. of Gen. Med. Sci. (NIGMS), Natl. Inst. of Hlth. [FASEB MARC Program: T36-GM008637-21NCE]

SAT. 9:00 AM—ROOM 10AB

CHAIR: M.T. Litzinger

For anyone seeking a job outside of academe, how you present yourself on paper is critical. A well prepared resumé can make all the difference in securing that interview. The focus of this session will be on the important elements of a resumé, the differences between a resumé and the standard academic curriculum vitae, and the information needed to make a good impression. In this special career development session, attendees will be instructed in how to transform their CVs into professional resumés. Small breakout sessions for individual consulting will follow. Bring your CV!

9:00 Introduction. **M. Litzinger.** American Assn. of Immunologists.

9:05 **D. Haseltine.** Career Develop. Ctr., Baylor Col. of Med.

17. THE AMERICAN SOCIETY OF GENE AND CELL THERAPY (ASGCT) SYMPOSIUM: IMMUNOLOGIC RESPONSES TO GENE THERAPY FOR HEMOPHILIA

Guest Society Symposium

SAT. 10:15 AM—ROOM 19AB

CHAIRS: F. Mingozi, R.W. Herzog

10:15 In vivo gene therapy to induce immune tolerance in hemophilia. **R. Herzog.** Univ. of Florida.

10:45 Immune responses in clinical trials for hemophilia. **F. Mingozi.** INSERM, Univ. of Pittsburgh Med. Ctr. and Genethon.

11:15 Regulatory T cell-mediated tolerance induction in hemophilia. **D. Scott.** Uniformed Services Univ.

11:45 MicroRBA-regulated lentiviral gene therapy for treatment and immune tolerance in hemophilia. **A. Follenzi.** Univ. of Piemonte Orientale.

Follow *The JI* on Twitter @J_Immunol to keep up on the latest in immunology!

Since 1916

SATURDAY—AM

18. EUROPEAN FEDERATION OF IMMUNOLOGICAL SOCIETIES (EFIS) SYMPOSIUM: T CELL MEMORY

Guest Society Symposium

SAT. 10:15 AM—ROOM 12AB

CHAIRS: F. Sallusto, S. Swain

- 10:15 Border control by virus-specific T cells. **R. van Lier.** Sanquin Blood Supply Fndn.
- 10:45 Making CD4 memory and TFH and ThCTL effectors. **S. Swain.** Univ. of Massachusetts Med. Sch.
- 11:15 Strategies for enhancing immune memory during aging. **A. Akbar.** Univ. Col. London.
- 11:45 The resting and restless memory. **A. Radbruch.** German Rheumatism Res. Ctr. Berlin.

19. REGULATION OF INNATE AND CYTOTOXIC LYMPHOCYTE RESPONSES: MOLECULAR MECHANISMS

Block Symposium

SAT. 10:15 AM—ROOM 18CD

CHAIRS: J. Sun, J. Teijaro

- 10:30 Bhlhe40 maintains CD8+ T cell fitness and functionality in non-lymphoid tissues and tumors. **C. Li, R. Taneja and J. Sun.** Mayo Clin. and Natl. Univ. of Singapore, Singapore. (111.4)
- 10:45 The T cell genome in 3D: how higher order chromatin structures regulate virus-specific T cell differentiation. **S. Turner, B. Russ, M. Olshansky, Z. He, S. Tomei, J. Li, C. Murre and S. Rao.** Monash Univ., Australia, Univ. of California, San Diego and Univ. of Canberra, Australia. (111.7)
- 11:00 Aryl-hydrocarbon receptor-driven responses of innate lymphocytes. **A. Stojanovic, M. Correia, K. Klein, P. Angel, M. Platten, K. Müller-Decker and A. Cerwenka.** German Cancer Res. Ctr., Germany and Ruprecht Karls Univ. Heidelberg, Germany. (111.8)
- 11:15 LSD1 regulates PD-1 expression through interactions with Blimp-1 during acute viral infection. **D. Neeld, A. Bally, P. Majumder, B. Barwick and J. Boss.** Emory Univ. Sch. of Med. (111.9)
- 11:30 Functional dissection of a novel IL-22 super-enhancer. **A. Saini, S. Li, J. Bando, P. Collins, M. Cella, Marco Colonna and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis. (111.10)
- 11:45 Inhibition of IFN-I signaling redirects STAT1 through the IL27R to enhance the generation of CXCR5+ follicular cytotoxic T cells. **Z. Huang, J. Zak, I. Pratumchai and J. Teijaro.** Scripps Res. Inst. (111.13)

20. INNATE IMMUNITY TO MICROBES II

Block Symposium

SAT. 10:15 AM—ROOM 16AB

CHAIRS: T.H. Harris, G. Hart

- 10:15 Regulation of cytokine-producing ILC2 subsets by AP-1 transcription factor, BATF. **P. Patel, K. Bao and R. Reinhardt.** Natl. Jewish Hlth. and Duke Univ. (168.1)
- 10:30 Cox10-deficient NK cells have increased apoptosis during MCMV infection, leading to susceptibility. **A. Mah, M. Keppel, N. Saucier, V. Sexl, A. French, M. Cooper.** Washington Univ. Sch. of Med. in St. Louis and Univ. of Vet. Med. Vienna, Austria. (168.5)
- 10:45 $\gamma\delta$ T cells orchestrate the induction of protective Type 2 immunity in neonatal influenza infection. **X. Guo and P. Thomas.** St. Jude Children's Res. Hosp. and Univ. of Tennessee Hlth. Sci. Ctr. (168.6)
- 11:00 Langerhans cells are required for the priming and induction of an optimal immune response against an acute DNA virus infection. **E. Wong, R-H. Xu, L. Tang, J. Meng and L. Sigal.** Thomas Jefferson Univ. and Fox Chase Cancer Ctr. (168.8)
- 11:15 T-bet-expression in dendritic cells is essential for *T. gondii* clearance. **A. Lopez-Yglesias, E. Burger, A. Araujo, A. Martin and F. Yarovinsky.** Univ. of Rochester Med. Ctr. (168.12)
- 11:30 IL-1 α facilitates the entry of immune cells into the brain during chronic *Toxoplasma gondii* infection. **S. Batista, C. O'Brien and T. Harris.** Univ. of Virginia Sch. of Med. (168.14)
- 11:45 The Notch signaling pathway controls basophil responses during helminth-induced type 2 inflammation. **L. Webb, S. Peng, O. Oyesola, R. Cubitt, C. Danko and E.T. Wojno.** Cornell Univ. (168.16)
- 12:00 A new malaria killer: Fc receptor gamma chain and PLZF identify NK cell subsets that correlate with reduced *Plasmodium falciparum* parasitemia and increased antibody dependent cellular cytotoxicity against opsonized infected RBCs. **G. Hart, T. Tran, J. Theorell, G. Arora, P. Crompton, Y. Bryceson and E. Long.** NIAID, NIH, Univ. of Minnesota, Indiana Univ. and Karolinska Inst., Sweden. (168.17)



21. COMBINATION THERAPIES FOR IMMUNO-ONCOLOGY

Block Symposium

SAT. 10:15 AM—ROOM 18AB

CHAIRS: E. Sayour, L.L. Wang

- 10:15 Effects of anti-CTLA-4 and anti-PD-1 on memory T-cell differentiation and resistance to tumor relapse. **S. Mok, C. Duffy and J. Allison.** The Univ. of Texas MD Anderson Cancer Ctr. (122.2)
- 10:30 CTLA-4 limits anti-CD20-mediated tumor regression. **Z. Ren, H. Peng and Y-X. Fu.** Univ. of Texas Southwestern Med. Ctr. and Inst. of Biophysics and Chinese Acad. of Sci., China. (122.3)
- 10:45 Phosphatidylserine targeting antibody in combination with tumor radiation and immune checkpoint blockade promotes anti-tumor activity in mouse B16 melanoma. **S. Budha, R. Giese, A. Gupta, O. De Henau, R. Zappasodi, L. F. Campesato, C. Barker, J. Shan, J. Wolchok and T. Merghoub.** Mem. Sloan Kettering Cancer Ctr. and Peregrine Pharmaceuticals, Inc. (122.10)
- 11:00 Immune modulation by combination type I interferon and checkpoint blockade therapy in murine urothelial carcinoma. **D. Plote, W. Choi, S. Mokkalpati, D. McConkey, K. Schluns and C. Dinney.** The Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas Hlth. Grad. Sch. of Biomed. at Houston, The Univ. of Texas MD Anderson Cancer Ctr., Houston, James Buchanan Brady Urological Inst., Johns Hopkins Greenberg Bladder Cancer Inst. and Johns Hopkins Univ., Sch. of Med. (122.12)
- 11:15 PD-1 blockade markedly enhances immunity to prostate tumors by adoptively transferred human Vγ2Vδ2 T cells in an NSG mouse model. **C. Morita, H. Wang and M. Nada.** Iowa City Veterans Hlth. Care Syst. and Univ. of Iowa Carver Col. of Med. (122.13)
- 11:30 Combination therapy of adoptive T cell therapy and immune checkpoint blockades engages distinct mechanisms in CD4⁺ and CD8⁺ T cells. **L. Shi, J. Gao, J. Allison and P. Sharma.** Case Western Reserve Univ. and MD Anderson Cancer Ctr. (122.22)
- 11:45 Commensal dysbiosis modulates the tumor microenvironment in breast cancer and diminishes efficacy of PD-L1 inhibition. **M. Rutkowski, C. Rosean, R. Bostic and T-Y. Feng.** Univ. of Virginia. (122.28)
- 12:00 Immunological Insights Into Liver Metastasis Associated Resistance To Checkpoint Blockade Cancer Immunotherapy. **J. Lee, S. Mehdizadeh, K. Tsai, A. Algazi, M. Rosenblum, A. Daud and J. Bluestone.** Univ. of California, San Francisco. (122.27)

22. NOVEL VACCINES AND IMMUNOTHERAPIES AGAINST INFECTIOUS DISEASES

Block Symposium

SAT. 10:15 AM—ROOM 17AB

CHAIRS: R.H. Scheuermann, A. Smith

- 10:15 Differential abundance of mDC subsets predict response to Hepatitis B vaccination. **R. Scheuermann, M. Novotny, B. Aevermann, R. Ben-Othman, A. Liu, M. Sadarangani and T. Kollmann.** J. Craig Venter Inst., Univ. of California, San Diego and Univ. of British Columbia, Canada. (180.1)
- 10:30 Hematopoietic stem/progenitor cells engineered with T cell receptors for immunotherapy for HIV infection. **A. Joglekar, S. Sandoval, J. Jeppson, Z Liu, M. Leonard, M. Swift and D. Baltimore.** California Inst. of Technol. (180.5)
- 10:45 Co-delivery of mucosa-associated epithelial chemokine (MEC/CCL28) enhances anti-HIV-1 mucosal responses through CCR10 in the context of DNA vaccination. **E. Gary, N. Kathuria, M. Bernui, L. Humeau, D. Weiner and M. Kutzler.** Drexel Univ. Col. of Med., Inovio Pharmaceuticals and Wistar Inst. (180.7)
- 11:00 Comparing NKT cell therapy to oseltamivir phosphate (Tamiflu®) for controlling pandemic H1N1 influenza. **B. L. Artiaga, G. Yang, J. Loeb, J. Richt, J. Abbott, J. Lednický and J. Driver.** Univ. of Florida and Kansas State Univ. (180.14)
- 11:15 Development of novel C type lectin receptor agonists as Th17-inducing adjuvants for next generation TB vaccines. **A. Smith, C. Buhl, R. Child, G. Ettenger, R. Schoener, D. Burkhart, K. Ryter and J. Evans.** Univ. of Montana. (180.20)
- 11:30 Age-specific TLR7/8 adjuvant formulation overcomes hyporesponsiveness to neonatal acellular pertussis vaccination in a mouse model. **D. Dowling, A. Smith, F. Borriello, S. Brightman, S. Schüller, H. Bazin, D. Burkhart, O. Levy and J. Evans.** Boston Children's Hosp., Harvard Med. Sch. and Univ. of Montana. (180.24)
- 11:45 Intranasal immunization with an acellular pertussis vaccine containing a Th1/17 skewing adjuvant, BcfA, improves *B. pertussis* clearance from the mouse respiratory tract. **K. Yount, J. Jennings-Gee, S. Quataert, R. Deora and P. Dubey.** Ohio State Univ., Wake Forest Univ. Hlth. Sci. and Univ. of Rochester Med. Ctr. (180.25)
- 12:00 Innate immunity limits protective adaptive immune responses against pre-erythrocytic malaria infection. **N. Minkah, B. Sack, A. Sheikh, A. Vaughan and S. Kappe.** Ctr. for Infectious Dis. Res. and Univ. of Washington. (180.26)

23. IMMUNOLOGY TEACHING INTEREST GROUP**Career Development Session**

Sponsored by the AAI Education Committee

SAT. 11:00 AM – ROOM 10AB

CHAIRS: A.K. Bamezai, D. W. Mullins.

Are you looking for new ideas or strategies to enliven and improve your teaching? If so, please join us for this special interest group which will focus on strategies that instructors can use to successfully convey immunology concepts to students at the undergraduate and graduate level. Topics will include the use of clinical correlations, writing, immediate feedback assessment, and more. The session will end with structured breakout discussion groups on Team-Based Learning, undergraduate/graduate education topics, and medical school teaching topics. Current educators, new faculty, and trainees with an interest in teaching are welcome.

Panelists:

- **E. Porter.** California State Univ., Los Angeles. *Integrating caring and human dimension in immunology to improve student learning*
- **C.C. Walline.** Univ. of North Carolina, Pembroke. *Teaching immunology essentials with clinical correlations*
- **D.E. Szollosi.** Univ. of St. Joseph Sch. of Pharmacy. *Promoting critical thinking through writing in a first-year immunology course*
- **K.R. Lukin and K. Aviszus.** Univ. of Colorado, Denver. *How to create effective student-driven learning without becoming overwhelmed*

Breakout Session Leaders:

- **A.K. Bamezai.** Villanova Univ. *Intro undergraduate/graduate immunology: developing a teaching philosophy and a course syllabus*
- **S. James.** Regis Univ. Sch. of Pharmacy. *Using team-based learning to teach immunology*
- **P. Kavathas.** Yale Univ. *A network of universities collaborate to improve STEM education and literacy*
- **D.W. Mullins.** Dartmouth Col., *Topics in immunology teaching for medical schools: Selecting course content and “teaching to the USMLE”*

24. CAREERS ROUNDTABLE AND SPEED NETWORKING SESSION**Career Development Session**

Sponsored by the AAI Minority Affairs Committee

SAT. 11:45 AM—BALLROOM BC

CHAIR: R.J. Binder

Registration Fee: \$30 (Includes lunch plus coffee during networking hour.) Networking skills have never been more crucial to ensure success for early/mid-career scientists, including those traditionally under-represented in biomedical research. At the roundtable, take advantage of the opportunity to meet in small-group format with accomplished, senior immunologists to hear how they have handled the career challenges you now face and learn what they believe will work for you today. Then practice networking in a relaxed environment offering a structured networking exercise and personalized feedback on communicating your scientific interests/objectives most effectively. Scientists and trainees of all backgrounds are encouraged to attend!

Discussion Topics:

- Grad Student: finding a mentor, setting sights on postdoc training
- Postdoc: finding a mentor, setting sights on a faculty position
- Junior Faculty: preparing for promotion and tenure
- —NEW—Work-life balance, it's real!
- Academia or Industry: how to decide (or switch sides)
- Government Agency Careers
- Non-Bench-Research Science Careers—e.g., entrepreneurship/research technology; intellectual property/patent law; non-profits/foundations



SATURDAY AFTERNOON

MAY 5

25. NEONATAL IMMUNITY: GETTING IT RIGHT FROM THE START**Committee-Sponsored Session**

Sponsored by the AAI Veterinary Immunology Committee. Support in part provided by the American Association of Veterinary Immunologists (AAVI)

SAT. 12:30 PM—ROOM 19AB

CHAIRS: C. Loving, R. Gourapura

This symposium will emphasize factors impacting neonatal immune development and protection against disease across various animal systems. Whereas transitioning from a sterile environment to a world with a multitude of microbes makes a neonate vulnerable to infection, exposure to the microbial world is important for immune maturation, but poses a risk to neonatal health. Maternal-derived immune factors can provide protection during the vulnerable neonatal period, and various methods are being utilized to exploit maternal immunity or enhance neonatal acquired immunity. This symposium will highlight factors that can improve or impede neonatal health, identifying commonalities relevant to both human and animal health.

- 12:30 The critical window of neonatal immune system development: lessons from animal models. **J. Butler**. Univ. of Iowa Carver Col. of Med.
- 1:00 Neonatal memory B cell activation in horses. **B. Wagner**. Cornell Univ. Col. of Vet. Med.
- 1:30 Protecting neonates from pertussis—lessons from a baboon model. **T. Merkel**. FDA.
- 2:00 Bovine mucosal immune system development: vaccines targeting the pathobiome. **P. Griebel**. VIDO-Intervac and Univ. of Saskatchewan.

26. THE AMERICAN SOCIETY OF TRANSPLANTATION (AST) SYMPOSIUM: NEW PARADIGMS IN T FOLLICULAR CELL BIOLOGY AND TRANSPLANT IMMUNITY**Guest Society Symposium**

SAT. 12:30 PM—ROOM 16AB

CHAIRS: P. Heeger, M-L. Alegre

- 12:30 Recent progress in T follicular helper cell biology. **S. Hale**. Univ. of Utah.
- 1:00 Impact of CD28 costimulation blockade of T follicular helper and follicular regulatory responses in transplantation. **R. Badell**. Univ. of Utah

- 1:30 Complement regulation of T follicular helper and germinal center B cells induced by transplantation. **P. Heeger**. Ichan Sch. of Med., Mount Sinai.
- 2:00 Tracking T follicular helper cells in human transplant recipients. **D. Metes**. Univ. of Pittsburgh.

27. SOCIETY FOR NATURAL IMMUNITY (SNI) SYMPOSIUM: TOWARDS TREATMENT OF HUMAN CANCER WITH NK CELLS**Guest Society Symposium**

SAT. 12:30 PM—ROOM 12AB

CHAIRS: H-G. Ljunggren, K. Rezvani

- 12:30 Malignant NK/T-cells in the context of human NK-cell development. **A. Mishra**. Ohio State Univ.
- 1:00 Allogeneic NK cell therapy against hematological malignancies. **H-G. Ljunggren**. Karolinska Inst.
- 1:30 Off-the-shelf CAR-transduced NK cells for cancer therapy. **K. Rezvani**. MD Anderson Cancer Ctr.
- 2:00 Ex vivo expansion of autologous NK cells for cancer treatment. **E. Alici**. Karolinska Inst.

28. NIH GRANTS WORKSHOP: DEMYSTIFYING THE GRANT APPLICATION SUBMISSION, REVIEW, AND FUNDING PROCESSES**Career Development Session**

SAT. 12:30 PM—ROOM 18AB

CHAIR: T. McIntyre

This workshop will provide participants with an overview of NIH grant submission, assignment, review, and funding opportunities. Emphasis will be given to identification of the most appropriate funding agencies and mechanisms available through NIH, how to make an application “reviewer friendly”, and other strategies that contribute to applications that succeed in obtaining research funding. The workshop will also provide information on how to understand the peer review system, which is essential to competing successfully for funding, with a focus on recent changes to the review process. NIH review and program staff will provide a broad array of expertise and encourage questions from seminar participants. This workshop is open to anyone interested in learning more about preparing an NIH grant application and obtaining NIH funding. Trainees and independent investigators are welcome.

Panelists:

- **T. McIntyre**. CSR, NIH
- **A. Deckhut-Augustine**. NIAID, NIH
- **D. Hodge**. CSR, NIH

29. T CELL SIGNALING: MEMBRANE TO NUCLEUS**Block Symposium**

SAT. 12:30 PM—ROOM 17AB

CHAIRS: K. Hedin, N. Singh

- 12:30 TRAF3-mediated regulation of the T cell receptor complex. **T. Arkee, A. Wallis and G. Bishop.** Univ. of Iowa. (112.1)
- 12:45 A transient Malt1 aggresome sustains T cell receptor signaling to NF- κ B. **M. Traver, L. Campanello, C. Huaman, S. Paul, H. Shroff, W. Losert and B. Schaefer.** Uniformed Serv. Univ. of the Hlth. Sci., Univ. of Maryland, Johns Hopkins Univ. Sch. of Med. and NIBIB, NIH. (112.2)
- 1:00 The IRF4 gene regulatory module functions as a read-write integrator to dynamically control T helper cell fate. **R. Sciammas, V. Krishnamoorthy, S. Kannanganat, M. Maienschein-Cline, S. Cook, J. Chen, N. Bahroos, E. Corse and A. Chong.** Ctr. for Comparative Med., Sch. of Vet. Med., Univ. of California, Davis, Houston Methodist Res. Inst., Univ. of Illinois, Chicago, Univ. of Chicago and Roche Innovation Ctr., Switzerland. (112.4)
- 1:15 CCDC134 facilitates T cell activation and inflammatory responses by regulating T-cell receptor signaling. **J. Huang, T. Zhang, B. Yu, Y. Wang, S. Yin and Xiaoyan Qiu.** Peking Univ. Hlth. Sci. Ctr., China. (112.5)
- 1:30 Global phosphoproteomic analysis of PD-1 signaling reveals T cell subset specific PD-1 functions. **A. Tocheva, M. Peled, S. Nayak, E. Philips, B. Ueberheide and A. Mor.** New York Univ. Sch. of Med. (112.6)
- 1:45 GRK2 transactivation of CXCR4 is required for TCR-mediated TCR-CXCR4 complex formation. **B. Dinkel, K. Kremer, M. Rollins, M. Medlyn and K. Hedin.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Mayo Clin. (112.7)
- 2:00 Tuning of TCR signaling pathways in chronically stimulated CD4⁺ T cells in vivo. **C. Matson and N. Singh.** Univ. of Maryland, Baltimore. (112.9)

30. AAI BUSINESS MEETING AND AWARD PRESENTATIONS**AAI Session**

SAT. 1:00 PM—ROOM 18CD

CHAIR: M.M. Hogan, AAI Executive Director

AAI reports on the “state of the association” to its members at every AAI annual meeting. Members will hear from the Executive Director, the Secretary-Treasurer, the Editors-in-Chief of AAI journals *The Journal of Immunology* and *ImmunoHorizons*, and the Chair of the Committee on Public Affairs on the financial standing of AAI and other matters of importance to the membership. Selected 2018 AAI awards will also be presented during this session. Refreshments will be provided.

AAI Distinguished Service Award Presentation

The AAI Distinguished Service Award recognizes Dr. Havran for enduring and exemplary service to AAI and the immunology community.

Introduction: **M.M. Hogan.** AAIRecipient: **W.L. Havran.** Scripps Res. Inst.**Chambers-Thermo Fisher Scientific Memorial Award**

To advance the career of an early career scientist who attends the AAI annual meeting and presents an outstanding abstract specifically in the area of cancer biology.

Introduction: **M.M. Hogan.** AAI; and **C. Hergersberg.** Thermo Fisher ScientificRecipient: **W. Peng.** Univ. of Texas MD Anderson Cancer Ctr.**Pfizer-Showell Travel Award**

To recognize the professional promise of an early-career investigator.

Introduction: **M.M. Hogan.** AAIRecipient: **J. von Moltke.** Univ. of Washington**Lefrançois -BioLegend Memorial Award**

To advance the career of a trainee who attends the AAI annual meeting and presents an outstanding abstract specifically in the area of mucosal immunology.

Introduction: **M.M. Hogan.** AAI; and **G. Lay.** BioLegendRecipient: **N. Surana.** Boston Children's Hosp.**AAI-Thermo Fisher Trainee Achievement Awards**

To recognize promising trainees in the field of immunology.

Introduction: **M.M. Hogan.** AAI; and **C. Hergersberg.** Thermo Fisher Scientific

Recipients:

M. Akkaya. NIAID, NIH**Y. Huang.** NIAID, NIH**J. Kotov.** Univ. of Minnesota**S. Mok.** Univ. of Texas MD Anderson Cancer Ctr.**S.C. Wei.** Univ. of Texas MD Anderson Cancer Ctr.**Q. Zhu.** Univ. of Tennessee Hlth. Sci. Ctr., St. Jude Children's Res. Hosp.**OTHER AWARDS AND GRANTS BEING ACKNOWLEDGED**

- **AAI Early Career Faculty Travel Grants**
- **AAI Laboratory Travel Grants**
- **FASEB DREAM Mentored Poster/Platform (Oral) Presenter Travel Awards**
Sponsored by FASEB Diversity Resources Program under a grant from NIGMS, NIH. [FASEB MARC Program: T36-GM008637-21 NCE]
- **AAI Undergraduate Faculty Travel Grants**
- **AAI Trainee Abstract Awards**
- **AAI Trainee Poster Awards**
- **AAI Late-Breaking Poster Awards**

31. REVERSE TRANSLATION: LEARNING FROM THE PATIENT

Committee-Sponsored Session

Sponsored by the AAI Clinical Immunology Committee

SAT. 3:45 PM—ROOM 12AB

CHAIRS: T.F. Gajewski, M. Sykes

While translational research has traditionally moved basic immunology knowledge forward into clinical application, varying clinical presentations of human immune-related disease processes, as well as variability in therapeutic outcomes, have provided opportunities for discovery of novel mechanistic hypotheses directly from patients. These types of investigations have been enabled by key technologies, including single-cell assays, high-throughput genomic sequencing, and improved bioinformatic algorithms. Tissues being sampled include biopsy material from target organs, peripheral blood cells and serum/plasma, germline DNA, and stool for microbiota analysis. Such work is accelerating therapeutic advances in autoimmunity, solid organ transplantation, and cancer immunotherapy. A sampling of presentations will highlight opportunities in reverse translational immunology research.

- 3:45 T cells prevent the peripheral accumulation of autoreactive naïve B cells. **E. Meffre**. Yale Univ.
 4:15 HIV vaccine design guided by patients' antibody responses. **C. Hioe** Icahn Sch. of Med., Mount Sinai.
 4:45 Tracking the human alloresponse in transplant recipients. **M. Sykes**. Columbia Univ.
 5:15 Learning about NK cells from inherent defects in human immunity. **J. Orange**. Baylor Col. of Med.

32. THE INTERNATIONAL CYTOKINE AND INTERFERON SOCIETY (ICIS) SYMPOSIUM: CYTOKINE AND INTERFERON SIGNALING IN THE IMMUNE RESPONSE

Guest Society Symposium

SAT. 3:45 PM—ROOM 16AB

CHAIRS: S.L. Gaffen, S-C. Sun

- 3:45 NF- κ B in Th17 responses: from host defense to inflammation. **S. Sun**. MD Anderson Cancer Ctr.
 4:15 The yin and yang of IL-17 signaling. **S. Gaffen**. Univ. of Pittsburgh.
 4:45 Host defense against Candida: lessons from primary immunodeficiencies. **M. Lionakis**. NIH, NIAID.
 5:15 Intracellular innate receptors: molecular biology, diseases, and the microbiome. **J. Ting**. Univ. of North Carolina, Chapel Hill.

33. KOREAN ASSOCIATION OF IMMUNOLOGISTS (KAI) AND ASSOCIATION OF KOREAN IMMUNOLOGISTS IN AMERICA (AKIA) SYMPOSIUM: NOVEL REGULATORS OF IMMUNE HOMEOSTASIS AND INFLAMMATION

Guest Society Symposium

SAT. 3:45 PM—ROOM 10AB

CHAIRS: W-K. Suh, J-M. Choi

- 3:45 The role of Capicua in lymphocyte development and immune disorder. **Y. Lee**. Postech.
 4:15 Tolerogenic function of dendritic cells and autoimmunity. **S. Kim**. Feinstein Inst. for Med. Res.
 4:45 Ligand independent CTLA-4 signaling peptide as a novel immune regulator in autoimmune diseases. **J-M. Choi**. Hanyang Univ.
 5:15 Roles of gut microbial metabolites in regulating immunity and inflammation. **C. Kim**. Univ. of Michigan.

34. BASIC AUTOIMMUNITY: REGULATORY T CELLS

Block Symposium

SAT. 3:45 PM—ROOM BALLROOM EFG

CHAIRS: J. Bluestone, B. Prabhakar

- 3:45 Thymic development of regulatory T cells by dendritic cells presenting modified peripheral beta cell antigens. **Y. Lin, T. Lee, G. Zurawski, M. Bettini and M. Bettini**. Baylor Col. of Med., Baylor Inst. for Immunology Res. and McNair Med. Inst., Houston. (101.13)
 4:00 Emergence of T Regulatory Cells Following Neural Precursor Cell Transplantation in Mouse Models of Multiple Sclerosis. **L. McIntyre, W. Plaisted, Q. Nguyen, K. Kessenbrock, T. Lane and C. Walsh**. Univ. of California Irvine, Genomics Inst. of the Novartis Res.Fdn. and Univ. of Utah. (101.8)
 4:15 *MicroRNA-142* guards against autoimmunity by controlling T_{reg} cell development and function. **W. Wang, C. Ouyang, K. Cassady, M. Xiong, E. Reyes, A. Davis, K. Tang, D. Zeng and M. Boldin**. Beckman Res. Inst., City of Hope and Irell and Manella Grad. Sch. of Biological Sci. (101.2)
 4:30 Human regulatory T cells suppress CD4⁺ T cells by rapidly altering the phosphoproteome. **R. Joshi, F. Marabita, N. Binai, Z. Sui, A. Altman, A. Heck, J. T. and A. Schmidt**. Karolinska Univ. Hosp., Sweden, Utrecht Univ., Netherlands and La Jolla Inst. for Allergy and Immunology. (101.1)
 4:45 Nc4L dictates Treg activation in vivo. **X. Zhou**. Institute of Microbiology and Chinese Acad. of Sci., China. (101.3)
 5:00 Antigen discovery for regulatory T cells (Tregs) in type-1 diabetes (T1D). **S. Dong, D. Xu, J. Bridge, W. Purtha, A. Spence, D. Wells, X. H. Wang, Q. Tang, M. Anderson and J. Bluestone**. Univ. of California, San Francisco, Parker Inst. for Cancer Immunotherapy and Berkeley Lighs. (101.12)

SATURDAY—PM

- 5:15 Treg-specific LAG3 deletion reveals a key role for LAG3 in regulatory T cells to inhibit CNS autoimmunity. **Y. Thaker, L. Andrews, C. Workman, D. Vignali and A. Sharpe.** Harvard Med. Sch. and Univ. of Pittsburgh Sch. of Med. (101.7)
- 5:30 Foxp3 domain-swap interface is required to suppress T helper type 2 transcriptional program in Regulatory T cells. **F. Van Gool, Michelle Nguyen, M. Mumbach, A. Satpathy, M. Anderson, A. Marson, H. Chang and J. Bluestone.** Univ. of California, San Francisco and Stanford Univ. Sch. of Med. (101.9)
- 5:15 Elucidating synergistic and antagonistic effects of B cell receptor and toll-like receptors 3, 4, and 9 in B cell activation. **B. Theall, T. Henke, A. Roesler, B. Akkaya, M. Pena, C. Cimperman, Y. Tadesse, S. Pierce and M. Akkaya.** NIAID, NIH. (107.3)
- 5:30 Dampening the B Cell Response, a modified lipid story. **T. Waseem, B. Gjurich, Matthew Butcher, A. Moriarty, W. Keeter and E. Galkina.** Eastern Virginia Med. Sch. and NIAID, NIH. (107.15)

35. B CELLS AND B/T CELL INTERACTIONS

Block Symposium

SAT. 3:45 PM—ROOM 19AB

CHAIRS: D.R. Fooksman, M. Akkaya

- 3:45 Follicular Regulatory T cells Positively Regulate Follicular Helper T Cells, Germinal Center B Cells and IgE Response in Peanut Allergic Mice. **M. Xie, H. Liu and A. Dent.** Indiana Univ. Sch. of Med. (107.2)
- 4:00 B lymphocytes are a major source of IL-27 that drives class-switched antibody responses and anti-viral immunity through paracrine targeting of B cells and T follicular helper cells. **H. Yan, R. Wang, M. Fernandez, C. Rivera, H. Sanchez, X-D. Li, N. Zhang, H. Zan, X-Z. Meng, R. Kedl, C. Hunter, Y. Xiang, P. Casali and Z. Xu.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, Univ. of Colorado Sch. of Med. and Univ. of Pennsylvania Sch. of Vet. Med. (107.5)
- 4:15 DC subsets are functionally specialized to induce GC-dependent or -independent humoral immune responses. **A. Bouteau, S. Zurawski, G. Zurawski and B. Igyártó.** Baylor Inst. for Immunology Res. Baylor Univ. (107.11)
- 4:30 Human germinal center B cells are intrinsically able to discriminate antigen affinity and with T cell help express plasma cell transcription factors. **A. Saniee, K. Kwak, N. Quizon, H. Sohn, J. Manzella-Lapeira, P. Holla, J. Lu, H. Xie, C. Xu, K. Spillane, P. Tolar and S. Pierce.** NIAID, NIH. (107.17)
- 4:45 Pam3CSK4 Induces B Cells to Release FasL⁺ Killer Exosomes That Suppress Allergic Asthma. **S. Lundy, J. Yang, S. Taitano and L. van der Vlugt.** Univ. of Michigan Med. Sch. (107.4)
- 5:00 Syndecan-1 (CD138) Regulates Competition Between Antibody Secreting Cells for Survival. **D. Fooksman and M. McCarron.** Albert Einstein Col. of Med. (107.8)
36. **ILCS IN TUMOR IMMUNITY AND IMMUNOTHERAPY**
- Block Symposium**
- SAT. 3:45 PM—ROOM 18AB
- CHAIRS: T.J. Curiel, J. Bui
- 3:45 IL-17C inhibits the development of hepatocellular carcinoma through the modulation of gut microbiota. **H. Gong, S. Ma and C. Dong, H. Liu.** Soochow Univ., China, Tsinghua Univ., China and Natl. Univ. of Singapore. (124.1)
- 4:00 Glycolipid stimulation of invariant NKT cells mobilizes precursors of mature NK cells and potentiates their participation in immune surveillance against metastatic cancer. **J. Choi, C. Chan, S. Lesage and S.M. Mansour Haeryfar.** Univ. of Western Ontario, Canada and Univ. of Montreal, Canada. (124.2)
- 4:15 Intratumoral CD56^{BRIGHT} Natural Killer cells are associated with improved survival in bladder cancer. **N. Mukherjee, N. Ji, M. Tomasini, V. Hurez, T. Curiel, M. Montgomery, A. Braun, M. Nicolas, M. Aguilera, Q. Liu, J. Ruan and R. Svatek.** Univ. of Texas Hlth. Sci. Ctr., San Antonio and Univ. of Texas, San Antonio. (124.3)
- 4:30 Enhanced killing of triple-negative breast cancer cells by blocking LLT1-CD161 inhibitory signal to NK cells. **A. Marrufo, S. Mathew, P. Chaudhary and P. Mathew.** Univ. of North Texas Hlth. Sci. Ctr. (124.4)
- 4:45 A distinct human NKp30⁺FcεR1γ⁺CD8⁺ T cell population exhibiting high NK-like anti-tumor potential. **M. Correia, A. Stojanovic, K. Bauer, D. Juraeva, L. Tykocinski, H-M. Lorenz, B. Brors and A. Cerwenka.** German Cancer Res. Ctr., Germany, Heidelberg Univ. Hosp., Germany and Ruprecht Karls Univ. Heidelberg, Germany. (124.6)
- 5:00 Metastasis-specific, NK cell-mediated, immune surveillance of lung cancer. **P. Chockley and V. Keshamouni.** Univ. of Michigan. (124.8)
- 5:15 Cell-intrinsic and spatially divergent tumor programmed death ligand 1 (PD-L1) signals modify local and systemic anti-tumor immunity through novel chemokine effects. **T. Curiel, H. Gupta, A. Padron, S. Pandeswara, G. Sareddy, B. Yuan, R. Reyes, M. J. Turk, V. Hurez, R. Li, R. Vadlamudi and C. Clark.** Univ. of Texas Hlth. Sci. Ctr., San Antonio and Dartmouth Geisel Sch. of Med. (124.12)

37. AAI-BD BIOSCIENCES INVESTIGATOR AWARD PRESENTATION AND LECTURE**Awards Lecture***Generously supported by BD Biosciences*

SAT. 4:30 PM—BALLROOM D

CHAIR: W.M. Yokoyama

- 4:30 Introduction and Award Presentation. **W.M. Yokoyama**, Washington Univ. Sch. of Med. in St. Louis, AAI President; and **R. Balderas**. BD Biosci.
- 4:35 T-B interactions and the germinal center response. **H. Qi**. Tsinghua Univ., China.

**38. DISTINGUISHED LECTURE
JEFFREY A. BLUESTONE****Distinguished Lecture**

SAT. 6:00 PM—BALLROOM D

CHAIR: E.M. Oltz

- 6:00 Treg-mediated immune tolerance in health and disease. **J. Bluestone**. Univ. of California, San Francisco.

39. CAREERS IN BIOTECH: PANEL DISCUSSION AND NETWORKING**Career Development Session***Sponsored by the AAI Education Committee*

SAT. 7:00 PM – ROOM 17AB

CHAIR: K.A. Casey

Many opportunities exist in industry for scientists with advanced degrees. There are positions in laboratory research, program management, business development, regulatory affairs, clinical trials oversight, medical liaison, and more. This panel features scientists employed in a variety of positions in industry discussing their career paths and the skills required for success in each. Following the panel discussion, enjoy casual conversation with the speakers and other scientists from industry at a networking reception.

Panelists:

- **A.C. Chan**. Genentech, Inc.
- **D.J. DiLillo**. Regeneron Pharmaceuticals, Inc.
- **S.T. Haley**. Immudex
- **C.J. McMahan**. Aptevo Therapeutics

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2:30 PM – 3:45 PM

Booth 403

Exhibit Hall



SATURDAY POSTER SESSIONS

Posters on Display: 9:30 am – 4:30 pm
 Author Presentation Time: 2:30 pm – 3:45 pm

40. BASIC AUTOIMMUNITY: B CELLS AND GERMINAL CENTERS

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- BA.100 **40.1** A novel mechanism for IL-23 to up-regulate AICDA and promote pathogenic autoantibodies in lupus. **H. Hong, Q. Wu, P. Yang, B. Lou, J. Li, H. Li, D. Cua, H. Hsu, and J. Mountz.** Univ. of Alabama, Birmingham, Harvard Univ. and Merck Res. Labs.
- BA.101 **40.2** A comprehensive phenotyping program for the MRL-*lpr* mouse lupus model. **A. Schile, M. Petrillo, A. Vovk, R. French, K. Leighton, Z. Dragos, J. Hagarman, and M. Strobel.** The Jackson Lab.
- BA.102 **40.3** UVB induces early increases in IgG+ B cells in lupus-prone but not wild-type mice. **S. Wolf, J. Theros, and M. Kahlenberg.** Univ. of Michigan.
- BA.103 **40.4** Genes associated with ARID3a expression in B Lymphocytes from Systemic Lupus Erythematosus patients. **J. Garton, R. Pelikan, M. Ratliff, J. James, P. Gaffney, and C. Webb.** Univ. of Oklahoma, Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr.
- BA.104 **40.5** TLR7 and IFN γ signaling converge at STAT1 in B cells to control germinal center mediated autoimmunity. **S. B. Chodisetti, P. Domeier, N. Choi, and Z. Rahman.** Pennsylvania State Univ. Col. of Med.
- BA.105 **40.6** NZB;NZW chimeras develop strong autoimmunity earlier than NZB/NZW. F1. **J. Hankins, A. Liu, J. Choi, X. Li, E. Turer, and B. Beutler.** Univ. of Texas Southwestern Med. Ctr.
- BA.106 **40.7** Loss of B cell Ezrin in lupus-prone Lyn-deficient mice downregulates B cell activation and autoimmune pathology. **N. Gupta, D. Pore, N. Parameswaran, E. Huang, and D. Dejanovic.** Cleveland Clin.
- BA.107 **40.8** Comparison of immune cells from germinal centers specific to protein or lipid antigens. **V.G. Galicia, O. A.A. Manzano, M.N.F. Castro, E.M. Rostro, C.Wong, C. Wong-Baeza, I. Baeza, and A. Reséndiz-Mora.** ENCB-IPN, Mexico and HGM Dr. Eduardo Liceaga, Mexico.
- BA.108 **40.9** Follicular CD8 T cells function in germinal center reactions to promote autoantibody-mediated disease. **K. Valentine, G. Mullins, J. Pinney, and K. Hoyer.** Univ. of California, Merced.
- BA.109 **40.10** Ikaros establishes an epigenetic program required for proper two-signal activation of naive B cells. **P. Rodriguez, H. Schjerven, E. Amiel, and S. Frieze.** Univ. of Vermont and Univ. of California, San Francisco.
- BA.110 **40.11** Mature anti-insulin B cells survive and present antigen in the absence of Bruton's tyrosine kinase. **L. Nyhoff, E. Clark, W. Khan, and P. Kendall.** Vanderbilt Univ. Med. Ctr. and Univ. of Miami Miller Sch. of Med.

- BA.111 **40.12** Single cell analysis revealed distinct B-cell subpopulations that produce or respond to type I interferon in SLE. **J. Hamilton, Q. Wu, P. Yang, B. Luo, S. Liu, J. Li, H. Hong, A. Mattheyseys, W. Chatham, H. Hsu, and J. Mountz.** Univ. of Alabama, Birmingham.
- BA.112 **40.13** Tracing self-reactive B cells in normal mice. **M. Kuraoka, T. Nojima, A. Reynolds, D. Kitamura, and G. Kelsoe.** Duke Univ., Tokyo Univ. of Sci., Japan and Duke Univ. Med. Ctr.
- BA.113 **40.14** Ikaros regulates B-cell tolerance. **H. Schjerven, P. Rodriguez, D. Hagen, M. Rasmussen, E. Ayongaba, and S. Frieze.** Univ. of California, San Francisco, Oslo Univ. Hosp., Norway, Univ. of Vermont and Univ. of Oslo, Norway.
- BA.114 **40.15** Programmed death-1 restrains the germinal center reaction in type 1 diabetes. **T. Martinov, J. Spanier, L. Swanson, and B. Fife.** Univ. of Minnesota.
- BA.115 **40.16** Anti-insulin B cells are poised for antigen-presentation in pro-inflammatory subsets in type 1 diabetes. **J. Felton, R. Bonami, C. Hulbert, and J. Thomas.** Vanderbilt Univ. Med. Ctr.
- BA.116 **40.17** Development of autoantibodies during pemphigus vulgaris pathogenesis. **J. Wrammert, A. Cho, A. Caldara, N. Ran, A. Payne, A. Kowalczyk, and R. Feldman.** Emory Univ. Sch. of Med. and Univ. of Pennsylvania.
- BA.117 **40.18** Atypical Xist RNA Localization to the Inactive X in a Female-biased Murine Model of Systemic Lupus Erythematosus. **A. Martin, C. Syrett, A. Myles, M. Atchison, and M. Anguera.** Univ. of Pennsylvania Sch. of Vet. Med. and Perelman Sch. of Med., Univ. of Pennsylvania.

41. BASIC AUTOIMMUNITY: INNATE IMMUNE MECHANISMS

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- BA.118 **41.1** Regulation of Myeloid Derived Suppressor Cell (MDSC) dynamics by T regulatory cells. **S. Tanwar and E. Shevach.** NIAID, NIH.
- BA.119 **41.2** An upregulation of TLR7 in renal dendritic cells is associated with glomerulonephritis across multiple B6.*Sle1*-associated strains. **A. Fairhurst.** Agency for Sci. and Technol. and Res., Singapore.
- BA.120 **41.3** CD40 expression on specific antigen-presenting cells mediates experimental autoimmune encephalomyelitis. **Y. Lu and R. Hodes.** NCI, NIH and NIA, NIH.

- BA.121 **41.4** Activation of the Stimulator of Interferon Gene Protein is Involved in the Etiopathogenesis of Sjogren's Syndrome. **J. Papinska, H. Bagavant, G. Gmyrek, M. Sroka, S. Tummala, K. Fitzgerald, and U. Deshmukh.** Oklahoma Med. Res. Fndn. and Univ. of Massachusetts Med. Sch.
- BA.122 **41.5** The macrophages in the pancreatic islets are activated and sense pathogen associated products in blood. **P. Zakharov, S. Ferris, X. Wan, E. Unanue, B. Zinselmeyer, and J. Carrero.** Washington Univ. in St. Louis.
- BA.123 **41.6** WITHDRAWN.
- BA.124 **41.7** Evaluation of the molecular mechanisms of NKT cells in the mouse model of Lupus induced by non-bilayer phospholipid arrangements. **C. Landa, S. Sánchez, O. Cruz, K. Taniguchi, I. Nevarez, O. Angeles, L. Sánchez, L. Flores, E. Martínez, A. Reséndiz, C. Wong, C. Wong-Baeza, and I. Baeza.** Natl. Polytechnic Inst., Mexico, Ctr. for Res. and Advanced Studies, Natl. Polytechnic Inst., Mexico.
- BA.125 **41.8** Myeloid NF- κ B signaling contributes to pathogenesis of immune-mediated nephritis. **S. Chalmers, S. Garcia, J. Shum, L. Herlitz, and C. Putterman.** Albert Einstein Col. of Med. and Cleveland Clin.
- BA.126 **41.9** Hemopexin deficiency prevents joint injury following collagen antibody-induced arthritis. **S. Baig, Y. Du, Q. Ling, L. Paglicawan, K. Vanarsa, and C. Mohan.** Univ. of Houston.
- BA.127 **41.10** Fingolimod impacts innate lymphoid cell biology. **A. Eken, M. Yetkin, F. Okus, S. Erdem, M. Cakir, A. Vural, H. Donmez-Altuntas, M. Mirza, and H. Canatan.** Erciyes Univ., Turkey.
- BA.128 **41.11** BCAP promotes Lupus-like disease and regulates IFN α production in pDC. **T. Chu, H. Waterman, G. Gessay, and J. Hamerman.** Univ. of Washington and Benaroya Res. Inst.
- BA.129 **41.12** N-Glycanase 1 Deficiency Triggers Innate Immune Activation Through Dysregulated Mitophagy. **K. Yang and N. Yan.** Univ. of Texas Southwestern Med. Ctr.
- BA.130 **41.13** Depletion of islet resident macrophages protects mice from type 1 diabetes. **J. Carrero, D. McCarthy, S. Ferris, X. Wan, H. Hu, B. Zinselmeyer, A. Vomund, and E. Unanue.** Washington Univ. in St. Louis and Washington Univ. Sch. of Med. in St. Louis.
- BA.131 **41.14** Characterization of MMP-28 in autoimmune neurodegenerative diseases. **D. Tokmina-Roszyk, L. Onwuha-Ekpete, M. Refai, M. Tokmina-Lukaszewska, B. Bothner, and G. Fields.** Florida Atlantic Univ. and Montana State Univ.
- BA.132 **41.15** A detrimental effect of interleukin-22 on salivary gland tissue integrity and function. **B. Yoo, J. Zhou, and Q. Yu.** Forsyth Inst. and Harvard Sch. of Dent. Med.
- BA.133 **41.16** Lipocalin 2 deficiency exacerbates collagen antibody induced arthritis in mice. **M. Lopez, K. Meyers, J. Samuels, and R. Shashidharamurthy.** Philadelphia Col. of Osteopathic Med.

42. INFLAMMATION AND DISEASE

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- CAM.134 **42.1** Interleukin-7 receptor pathway controls human T cell homing to the gut and predicts response to anti-TNF α therapy in IBD. **L. Belarif, R. Danger, L. Kermarrec, V. Daguin, A. Boureille, P. Naveilhan, B. Vanhove, and N. Poirier.** OSE IMMUNOTHERAPEUTICS, France, UMR 913, Centre de Recherche en Transplantation et en Immunologie, France and Institut des Maladies de l'Appareil Digestif, France.
- CAM.135 **42.2** Nitric oxide synthase 2 augments the survival of mice upon *Salmonella* Typhimurium infection induced sepsis: impact on innate immune responses & organ damage. **S. Yadav and D. Nandi.** Indian Inst. of Sci., India.
- CAM.136 **42.3** PLAG ameliorates LPS-induced ALI by attenuation of neutrophil infiltration into alveolar via a prompt resolution of TLR4 signaling. **S. Shin, H. Lee, J. Jeong, J.H. Kim, D.Y. Lee, B. Moon, K. Sohn, S.Y. Yoon, and J.W. Kim.** Korea Res. Inst. of Biosci. and Biotechnol., South Korea, Univ. of Sci. and Technol., South Korea, ENZYCHEM Lifesciences, South Korea and Eulji Univ. Sch. of Med., South Korea.
- CAM.137 **42.4** Changes in peritoneal macrophage composition during sepsis. **W. Walker, A. Rubio, and D. Kumar.** Texas Tech Univ. Hlth. Sci. Ctr.
- CAM.138 **42.5** Intravenous anesthetic propofol and its analogue flopropofol attenuated 5-lipoxygenase function and leukotriene B₄ production. **K. Yuki and S. Koutsogiannaki.** Boston Children's Hosp. and Harvard Med. Sch.
- CAM.139 **42.6** Exogenous Lipocalin2 facilitates the upregulation of thermogenic and beige/browning markers in murine white adipocytes. **K. Meyers, M. Lopez, J. Samuels, S. Rayalam, and R. Shashidharamurthy.** Philadelphia Col. of Osteopathic Med.
- CAM.140 **42.7** Regulators of mycobacterial granuloma formation – CCL2 and VEGF-A. **M. Herbath, J. Harding, S. Marcus, G. Hasko, A. Nagy, Z. Fabry, and M. Sandor.** Univ. of Wisconsin, Madison, Lunenfeld-Tanenbaum Res. Inst., Mount Sinai Hosp., Canada and Columbia Univ. Med. Ctr.
- CAM.141 **42.8** Using Multiplex and Single-Molecule Bead-Based Technologies to Assess Inflammatory Changes Following Skeletal Muscle Injury. **B. McFarlin, E. Bowman, M. Gary, S. Stelly, E. Tanner, and A. Davis.** Univ. of North Texas.

No photography of any sort is allowed in lecture or poster sessions.

SATURDAY—POSTER SESSIONS

- CAM.142 **42.9** Neutrophil extracellular traps are a heterogeneous feature in sickle cell disease. **E.A. Barbu, V.M. Dominical, L. Mendelsohn, and S.L. Thein.** NHLBI, NIH.
- CAM.143 **42.10** Lactoferrin inhibits immune cell adhesion via suppression of cell adhesion molecules expression in hypoxia/reoxygenation animal model. **T.H. Lee.** Kyung Hee Univ., South Korea.
- CAM.144 **42.11** Anti-inflammatory Activities and Component Change of Processed and Fermented Gastrodiae Rhizoma. **S.Y. Park, E.J. Kim, B.N. Song, D.S. Jeong, S.Y. Kim, B.R. Park, and H.S. Choi.** Natl. Inst. of Agr. Sci., South Korea.
- CAM.145 **42.12** λ -Carrageenan initiates inflammation via activation of heterodimers TLR2/6 and TLR4/6 **A. Lewandowski, C. Deaver, and M. Myers.** FDA.
- CAM.146 **42.13** Effect of combustible tobacco product preparations on neutrophil-like cells. **S. Arimilli, D. Cutno, and P.G.L.** Wake Forest Baptist Hlth. and RAI Services Co.
- CAM.147 **42.14** Evaluating the Effects of Systemic, Exercise-Induced Skeletal Muscle Injury using Whole Transcriptome Sequencing. **E. Tanner, T. Kim, M. Gary, S. Stelly, A. Davis, E. Bowman, and B. McFarlin.** Univ. of North Texas.
- CAM.148 **42.15** Multi-parametric Human Cell-Based Inflammation Assay for Cytokines and Cell Surface Antigens. **E. Cromwell, O. Hoxha, M. Hammer, and O. Sirenko.** Protein Fluidics, Inc. and Molec. Devices, LLC.
- CAM.149 **42.16** Lysophosphatidic acid strongly protects acute liver injury caused by acetaminophen in an experimental animal model. **G.H. Bae, S.K. Lee, H.S. Kim, M. Lee, H.Y. Lee, and Y. Bae.** Sungkyunkwan Univ., South Korea and Samsung Advanced Inst. for Hlth. Sci. and Technol., South Korea.
- CAM.150 **42.17** Suppression of CD8+ T cell and Neutrophil Function Distinguishes Ruxolitinib Treatment from IFN γ Neutralization in Hemophagocytic Lymphohistiocytosis. **S. Albeituni, K. Verbist, P. Tedrick, H. Tillman, and K. Nichols.** St. Jude Children's Res. Hosp.
- CAM.151 **42.18** Macrophage dependent pathways modulate the pathogenesis of cytokine storm syndrome. **S. Mahajan, C. Decker, E. Mellins, and R. Faccio.** Washington Univ. in St. Louis and Stanford Univ.
- CAM.152 **42.19** CCN3 Regulates Macrophage function in MSU-induced inflammation. **L. Duan, X. Zhou, J. Chen, X. Rao, Z. Lin, and J. Zhong.** Case Western Reserve Univ., The First Affiliated Hosp. of Xiamen Univ., China and Emory Univ. Sch. of Med.
- CAM.153 **42.20** Macrophage depletion results in anemia, neutrophilia, and is not an effective therapy for rescuing obesity-linked metabolic impairments. **J. Bader, R. Enos, K. Velazquez, M. Carson, A. Sougiannis, O. McGuinness, M. Nagarkatti, P. Nagarkatti, C. Robinson, D. Fan, and E.A. Murphy.** Univ. of South Carolina Sch. of Med., Vanderbilt Univ. and West Virginia Univ.
- CAM.154 **42.21** Aortic intima microenvironment instructs macrophage gene expression signature in steady state and progressing atherosclerosis. **J. Williams, K. Zaitsev, K. Kim, K. Kim, B. Zinselmeier, J. Choi, M. Artyomov, and G. Randolph.** Washington Univ. in St. Louis, and Hanyang Univ., South Korea.
- CAM.155 **42.22** The role of innate lymphoid cells in the heart and cardiac inflammation. **H.S. Choi, X. Hou, W. Bracamonte-Baran, N. Diny, M. Talor, and D. Cihakova.** Johns Hopkins Univ. Sch. of Med., Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Francis Crick Inst., United Kingdom.
- CAM.156 **42.23** TREML4 affects lesion composition but not calcification in the Apolipoprotein E deficient model of experimental Atherosclerosis. **M.G. Cotto, L. Guo, M. Karwan, E. Palmieri, K. Boelte, L. Quigley, S. Sen, L. Biesecker, and D. McVicar.** NCI, NIH, CvPath and NHGRI, NIH.
- CAM.157 **42.24** IL-17A induced hematopoietic reprogramming produces both PMN and MDSC at the post-acute stage of inflammation. **C. Culpepper, A. Tremblay, Z. Bian, S. Niu, and Y. Liu.** Georgia State Univ.
- CAM.158 **42.25** Transcriptomic meta-analysis reveals signatures of chronic inflammation in the classical monocyte population. **J. Golden, B. Richardson, D. Seth, M. Cartwright, R. Sekaly, T. McCormick, K. Cooper, C. Cameron, and M. Cameron.** Case Western Reserve Univ. and Univ. Hosp. Cleveland Med. Ctr.
- CAM.159 **42.26** Loss of MSP-dependent Ron receptor signaling exacerbates liver fibrosis in a high fat high cholesterol diet-induced ApoE KO mouse model. **J. Allen, M. Kennett, A. Patterson, and P. Hankey-Giblin.** Pennsylvania State Univ.
- CAM.160 **42.27** Increased salivary levels of Urokinase Plasminogen Activator Receptor (uPAR) are induced by acute stress and correlate with levels of pro-inflammatory cytokines. **R. Fernandez-Botran, Y. Szabo, K. Lyle, and T. Newton.** Univ. of Louisville.

43. INFLUENCE OF CYTOKINES AND CHEMOKINES ON REGIONAL IMMUNITY

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- CCR.161 **43.1** Glucocorticoids inhibit group 3 innate lymphocyte IL-22 production. **L. Zenewicz, S. Seshadri, and R. Pope.** Univ. of Oklahoma Hlth. Sci. Ctr.
- CCR.162 **43.2** More than a decoy receptor? Interleukin 22 Binding Protein (IL-22BP) in bacterial pneumonia. **G. Trejejo-Nunez, P. Castillo, K. Chen, and J. Kolls.** Univ. of Pittsburgh and Tulane Univ. Sch. of Med.
- CCR.163 **43.3** Exacerbation of intestinal IL-17 activity by mycoplasma superantigen leads to increased HMGB1 and chemokines in the joints of autoimmune arthritis mice. **H. Mu and J. Tran.** Univ. of Utah Sch. of Med.
- CCR.164 **43.4** The damage signal IL-33 facilitates focal immune responses to *Toxoplasma gondii* in the brain. **K. Still, J. Thompson, S. Batista, N. Hayes, and T. Harris.** Univ. of Virginia Sch. of Med.

- CCR.165 **43.5** Defective Microglia-Neuronal Communication during Demyelinating Dis. Correlates with Altered Neurogenesis. **A. Cardona, K. Church, A. Mendiola, S. Cardona, D. Vanegas, C. Garcia, D. Luera, S. Lira, E. Kokovay, and C.A. Lin.** The Univ. of Texas, San Antonio, Univ. of California, San Francisco, Icahn Sch. of Med., Mount Sinai, and Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- CCR.166 **43.6** T cell restricted TGF- β 3 (betaglycan) null mice develop exacerbated experimental autoimmune encephalomyelitis (EAE) associated with expanded generation of Th1 cells. **S. Duesman, C. Ren, R. Chellappan, C. Sestero, R. Kesterson, P. De Sarno, G. Soldevila, and C. Raman.** Univ. of Alabama, Birmingham, Univ. of Montevallo and Natl. Autonomous Univ. of Mexico, Mexico.
- CCR.167 **43.7** IL7R regulates fetal tissue resident macrophage development. **G. Leung, T. McCann, C. Forsberg, and A. Beaudin.** Univ. of California, Merced and Univ. of California Santa Cruz.
- CCR.200 **43.8** IL-7 promotes naïve T cell motility and regulates T cell-dendritic cell contacts in the lymph node via JAK/STAT signaling. **J. R. Byrum, D. Torres, P. Mrass, S. Oruganti, and J. Cannon.** Univ. of New Mexico Sch. of Med. and Northern New Mexico Col.
- CCR.201 **43.9** Assessing the disease specificity of urinary PF4 for active lupus nephritis. **S. Gokaraju, A. Haque, K. Vanarsa, S. Soliman, R. Saxena, and C. Mohan.** Univ. of Houston, Univ. of Minya, Egypt and Univ. of Texas Southwestern Med. Ctr.
- CCR.202 **43.10** Accelerated onset of arthritis by systemic infection of *Mycoplasma fermentans* in the knock-in mice gp130F759. **A. Yahagi, T. Saika, H. Hirano, M. Iseki, and K. Ishihara.** Kawasaki Med. Sch., Japan.
- CCR.203 **43.11** Selective electrical stimulation of vagus nerve induces specific cytokine response. **T. Datta-Chaudhuri, T. Tsaava, M. Addorissio, C. Bouton, K. Tracey, and S. Chavan.** Feinstein Inst. for Med. Res.
- CCR.204 **43.12** Identification of cytokine-specific sensory neural signals in murine vagus nerve activity recordings. **T. Zanos, H. Silverman, T. Levy, T. Tsaava, E. Battinelli, P. Lorraine, J. Ashe, S. Chavan, C. Bouton, and K. Tracey.** Feinstein Inst. for Med. Res. and Gen. Electric Global Res.
- CCR.205 **43.13** Dendritic cell derived IL-12p40 binds extracellular proteins to make heterodimeric cytokines. **A. Gerber, K. Abdi, and N. Singh.** Univ. of Maryland, Baltimore and NIAID, NIH.
- CCR.206 **43.14** IL-4 promotes lymphotoxin expression and maintains the lymphocyte-stromal cell axis in peripheral lymph nodes. **D.C. Selva, A. Ready, and K. Fairfax.** Purdue Univ.
- CCR.207 **43.15** Signal crosstalk between cytokine RANKL and AhR signaling in osteoclasts controls bone homeostasis. **T. Izawa, R. Arakaki, E. Tanaka, and N. Ishimaru.** Univ. of Tokushima, Japan.
- CCR.208 **43.16** IL-2 enhances IFN γ signals in subpopulations of T and B lymphocytes from treatment naïve relapsing remitting multiple sclerosis (RRMS) patients. **B. Pope, V. Sharma, M. Boland, W. Meador, S.L. Bridges, and C. Raman.** Univ. of Alabama, Birmingham.
- CCR.209 **43.17** CXCL13-CXCR5 Signaling Axis Augments Castration Resistant Phenotype in Prostate Cancer Patients. **A. Ohandjo, Z. Liu, C. Dill, T. Griffen, R. Meller, and J. Lillard.** Morehouse Sch. of Med. and Yale Sch. of Med.
- CCR.210 **43.18** Gpr109a limits microbiota-induced IL-23 production to constrain ILC3-mediated colonic inflammation and carcinogenesis. **B. Bhatt, P. Zeng, H. Zhu, S. Sivaprakasam, H. Xiao, L. Dong, P. Shiao, R. Kolhe, H. Li, V. Ganapathy, and N. Singh.** Georgia Regents Univ. and Texas Tech Univ. Hlth. Sci. Ctr.
- CCR.211 **43.19** Soluble TIR-8 neutralizes anti-inflammatory effects of IL-37 in Crohn disease patients. **A. Ahmad, S. Samarani, A. Abulkhair, P. Jantchou, C. Faure, C. Deslandres, and D. Amre.** CHU Ste-Justine/Univ. of Montreal, Canada.
- CCR.212 **43.20** Response gene to complement 32 interacts with SMAD3 to promote TGF- β -induced extracellular matrix production in multiple sclerosis. **A. Tatomir, D. Boodhoo, C. Tegla, V. Rus, and H. Rus.** Univ. of Maryland Sch. of Med. and VA Maryland Hlth. Care Sys.
- CCR.213 **43.21** C-C motif chemokine receptor 2 drives protective immunity by mediating alveolar macrophage localization in tuberculosis granulomas. **M. Dunlap, N. Howard, S. Das, M. Ahmed, O. Prince, J. Rangel-Moreno, B. Rosa, M. Mitreva, G. Randolph, and S. Khader.** Washington Univ. Sch. of Med. in St. Louis and Univ. of Rochester Med. Ctr.
- CCR.214 **43.22** Elevated adipose tissue expression of CCL19 in obese individuals with or without type-2 diabetes: its association with metabolic inflammation. **F. Alrashed, S. Kochumon, J. Tuomilehto, S. Sindhu, and R. Ahmad.** Dasman Diabetes Inst., Kuwait.

44. ASTHMA, LUNG INFLAMMATION, AND IMMUNITY

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- HYP.215 **44.1** Visual analysis of multidimensional CyTOF data from allergic asthmatics pre and post allergen challenge. **J. Wang, N. Bhakta, M. Ansel, B. Antalek, C. Nguyen, and P. Woodruff.** Cardiovascular Res. Inst., Univ. of California, San Francisco.
- HYP.216 **44.2** Principal Component Analysis to Evaluate Relationships in Reactivity to Commercial Extracts and Uncharacterized Fungi among Asthmatic and Allergic Rhinitis Subjects. **F. Rivera-Mariani and B. Bolaños-Rosero.** Larkin Univ. Col. of Biomed. Sci. and Univ. of Puerto Rico Sch. of Med.
- HYP.217 **44.3** PKC α /I regulates Th17 cells and house dust mite-induced allergic airway inflammation. **J. Yang, P. Dong, Y. Yang, W. Zhou, C. Mei, F. Guo, and Y. Zheng.** Jiangsu Inst. of Parasitic Dis., China and Cincinnati Children's Hosp. Med. Ctr.
- HYP.218 **44.4** Targeting MARCKS phosphorylation site domain shows therapeutic potential for allergic asthma. **C. Lee, C. Chen, K. Lee, W. Shu, N. Kenyon, C. Wang, and R. Wu.** China Med. Univ., Taiwan, Univ. of California, Davis, Sch. of Med. and China Med. Univ., Taiwan.

SATURDAY—POSTER SESSIONS

- HYP.219 **44.5** Natural killer cells regulate allergic lung inflammation by acting on group 2 innate lymphoid cells. **Z. Jaffar, M. Ferrini, and K. Roberts.** Univ. of Montana.
- HYP.220 **44.6** I κ B kinase β inhibitor, BMS-345541, suppresses the dendritic cell response in a murine model of allergic airway inflammation. **I. Gregorczyk and T. Maślanka.** Univ. of Warmia and Mazury, Poland.
- HYP.221 **44.7** Intratracheal ovalbumin administration induces colitis through the IFN- γ . **D.S. Shin, K. Jung,** Kyung Hee Univ., South Korea.
- HYP.222 **44.8** The Role of Myristoylated, Alanine-rich C-kinase Substrate (MARCKS) in a Murine Model of Chronic Airway Inflammation. **C. Wang.** China Med. Univ., Taiwan.
- HYP.223 **44.9** Eosinophil recruitment is dynamically regulated by interplay among lung dendritic cell subsets after allergen challenge. **S. Yi, R. Niu, G. Zhu, W. Song, and H. Tang.** Taishan Med. Univ., China.
- HYP.224 **44.10** Influenza A virus infection causes chronic lung disease linked to IL-13 and mucin expression at sites of viral remnants. **S. Keeler, E. Agapov, M. Hinojosa, A. Letvin, K. Wu, and M. Holtzman.** Washington Univ. in St. Louis.
- HYP.225 **44.11** Reducing airway constriction and inflammation through GABA_A receptors in the lung with a novel, orally available drug candidate. **A. Nieman, G. Forkuo, N. Zahn, R. Kodali, G. Li, M. R. Roni, M. Stephen, T. Harris, R. Jahan, M. Guthrie, O. Yu, J. Fisher, G. Yocum, C. Emala, D. Steeber, D. Stafford, and L. Arnold.** Univ. of Wisconsin, Milwaukee, Univ. of South Carolina Sch. of Med. and Columbia Univ.
- HYP.226 **44.12** IRF4 expression by lung dendritic cells promotes allergic Th2 responses by controlling OX40L, IL-10, and IL-33 expression during sensitization. **D. Camacho, C. Howard, E. Darnell, E. Wang, C. Hrusch, and A. Sperling.** Univ. of Chicago.
- HYP.227 **44.13** MARCH1 plays an indispensable role in the development of airway allergic immunity and asthma. **C. Castellanos, X. Ren, X. Huang, and J. Shin.** Univ. of California, San Francisco.
- HYP.228 **44.14** Pre-existing atopy protects mice from paramyxoviral respiratory infection weight loss. **S. Hussain, M. Rohlfing, J. Santoro, and M. Grayson.** Nationwide Children's Hosp. and Ohio State Univ. Col. of Med.
- HYP.229 **44.15** IL-27 controls allergic airway inflammation via Foxp3+ regulatory T cells. **Q.T. Nguyen and B. Min.** Lerner Res. Inst., Cleveland Clin. Fndn.
- HYP.230 **44.16** The lung hematopoietic niche supports bone marrow-independent hematopoiesis and contributes to local eosinophil expansion during allergic inflammation. **B. Jeong, M. Coden, T. Doan, S. Chiarella, R. Rodriguez, and S. Berdnikovs.** Feinberg Sch. of Med., Northwestern Univ.
- HYP.231 **44.17** A novel role of human lung endothelial cells in allergic airway disease by producing and responding to IL-33. **C. Howard, D. Decker, I. Swanson, K. Blaine, M. Nobrega, and A. Sperling.** Univ. of Chicago.
- HYP.232 **44.18** Unexpected role for androgen and androgen receptor as enhancers of M2 macrophage polarization. **M. Becerra-Diaz, A. Strickland, A. Keselman, and N. Heller.** Johns Hopkins Univ. Sch. of Med.
- HYP.233 **44.19** The P2Y purinoceptor, P2Y₁₄R, promotes AHR in an animal model of asthma. **T. Karcz, H. Nakano, K. Jacobson, and D. Cook.** NIEHS, NIH and NIDDK, NIH.
- HYP.234 **44.20** IL33 signaling contributes to diesel exhaust particles-induced asthma exacerbations by promoting innate and adaptive type 2 and type 17 responses. **E. Brandt, P. Bolcas, B. Ruff, and G.K. Hershey.** Cincinnati Children's Hosp. Med. Ctr.
- HYP.235 **44.21** Resistin-like molecule- β negatively regulates chronic features of fungal asthma. **A. Samarasinghe, K. LeMessurier, M. Palipane, M. Tiwary, and B. Gavin.** Univ. of Tennessee Hlth. Sci. Ctr. and Children's Fndn. Res. Inst.
- HYP.236 **44.22** The crosstalk between developing sympathetic nerves and immune cells contributes to early-life Th2 bias in the lung. **W. Wang, J. Cohen, K. Trieu, Y. Bai, and X. Ai.** Brigham and Women's Hosp.
- HYP.237 **44.23** miR-396 ameliorate allergic inflammation in a mouse model of asthma. **C. Shen, L. Yu, and S. Wang.** Shanghai TCM-Integrated Hosp., China.
- HYP.238 **44.24** Scavenger receptor BI attenuates IL-17-dependent neutrophilic inflammation in asthma. **S. Reece, B. Kilburg-Basnyat, A. Gilliard, M. Hodge, B. Luo, J. Madenspacher, D. Cook, M. Fessler, and K. Gowdy.** East Carolina Univ. and NIEHS, NIH.
- HYP.239 **44.25** Estrogen contributes to sex differences in M2-polarization during asthma. **A. Keselman, J. Fang, P. White, and N. Heller.** Johns Hopkins Univ. Sch. of Med.
- HYP.240 **44.26** WITHDRAWN.
- HYP.241 **44.27** Activation of neonatal mouse lung ILC2s by endogenous IL-33 impacts type 2 responses later in life. **C. Steer, B. Shim, L. Mathae, and F. Takei.** British Columbia Cancer Agency, Canada and Univ. of British Columbia, Canada.
- HYP.242 **44.28** A potential role for adipose tissue eosinophils in allergy and asthma. **W. Bolus and A. Hasty.** Vanderbilt Univ.
- HYP.243 **44.29** Therapeutic blockade of CD3-mediated signaling ameliorates memory Th2-driven allergic asthma. **D. Gracias, A. Mehta, and M. Croft.** La Jolla Inst. for Allergy and Immunology.
- HYP.244 **44.30** Adeno-associated viral vector-mediated ATPase gene transfer alleviates asthmatic airway inflammation in OVA-sensitized mice model. **M. Kuo.** Chang Gung Univ., Taiwan.
- HYP.245 **44.31** Resveratrol treatment alters lung microbiome in the murine ovalbumin-induced asthma model by increasing mucus-degrading *Akkermansia muciniphila*. **E. Alharris, H. Alghetaa, P. Busbee, M. Nagarkatti, and P. Nagarkatti.** Univ. of South Carolina, Sch. of Med. and Univ. of South Carolina.
- HYP.246 **44.32** The loss of DGK protects against allergic airway inflammation and airway hyperresponsiveness. **B. Singh, W. Lu, A. Schmidt-Paustian, and T. Kambayashi.** Univ. of Pennsylvania.
- HYP.247 **44.33** A comparison of IL-5 and IL-10-producing antigen-specific clonal T cell repertoires. **V. Schulten, L. Westernberg, and B. Peters.** La Jolla Inst. for Allergy and Immunology

- HYP.248 **44.34** TRIM37 regulates allergic airway inflammation in a murine model of asthma. **H-C. Chang, J. Lu, and H-C. Chen.** Grad. Inst. of Life Sci., Natl. Def. Med. Ctr., Taiwan, The Genomic Res. Ctr., Academia Sinica, Taiwan, Sch. of Med., China Med. Univ., Taiwan and Grad. Institute of Biomed. Sci., China Med. Univ., Taiwan.
- HYP.249 **44.35** GATA3, SATB1, IRF4 complex binds to the Th2 cytokine locus through *cis*-acting element RHS6, regulating allergic airway inflammation. **S. W. Jang and G.R. Lee.** Sogang Univ., South Korea.
- 45. AUTOIMMUNITY, HYPERSENSITIVITY, AND TOLERANCE**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- HUM.250 **45.1** Soluble LOX-1: a potential biomarker for SLE and cardiovascular comorbidity. **D. Sagar, R. Gaddipati, E. Ongstad, S. Rahman, M. Belkhdja, N. Bhagroo, L. An, S. Hasni, R. Siegal, M. Sanjuan, R. Kolbeck, S. Karathanasis, G. Sims, and R. Gupta.** MedImmune and NIAMS, NIH.
- HUM.251 **45.2** Antibodies to a peptide derived from EBNA-1 may be a potential biomarker for SLE. **L. Spatz, S. Hajtovic, and D. Singh.** The City Col. of New York/CUNY Sch. of Med.
- HUM.252 **45.3** Single-cell RNA sequencing of skin and kidney cells in lupus nephritis provides insights into pathogenesis and indicates novel potential biomarkers. **E. Der, H. Suryawanshi, S. Ranabothu, B. Goilav, H. M. Belmont, P. Izmirly, N. Bornkamp, N. Jordan, T. Wang, M. Wu, J. James, J. Guthridge, S. Raychaudhuri, J. Buyon, T. Tuschl, and C. Putterman.** Albert Einstein Col. of Med., Rockefeller Univ., Montefiore Med. Ctr., New York Univ. Sch. of Med., Oklahoma Med. Res. Fndn. and Broad Inst. of MIT and Harvard.
- HUM.253 **45.4** A gene expression module that identifies low-density granulocytes in the blood of patients with systemic lupus erythematosus is associated with low complement, elevated anti-dsDNA titer and both the interferon and TNF signatures. **B. Kegerreis, M. Catalina, N. Geraci, P. Bachali, P. Lipsky, and A. Grammer.** AMPEL BioSolutions.
- HUM.254 **45.5** Identification of perturbations in macrophage polarization in active systemic lupus erythematosus. **A. Labonte, P. Bachali, M. Catalina, R. Robl, N. Geraci, P. Lipsky, and A. Grammer.** AMPEL BioSolutions.
- HUM.255 **45.6** IRF5 hyper-activation is a driver of systemic lupus erythematosus (SLE) onset and severity. **B. Barnes, S. De, S. Song, and V. Nelson.** Feinstein Inst. for Med. Res.
- HUM.256 **45.7** Periodontal pathogen exposure facilitates disease activity in Systemic Lupus Erythematosus. **H. Bagavant, M. Dunkleberger, N. Wolska, P. Rybakowska, M. Sroka, A. Rasmussen, I. Adrianto, C. Montgomery, K. Sivils, J. Guthridge, J. James, J. Merrill, and U. Deshmukh.** Oklahoma Med. Res. Fndn.
- HUM.257 **45.8** Direct correlation between plasma microbial translocation and autoantibodies in first-degree relatives of patients with systemic lupus erythematosus. **W. Jiang, E. Ogunrinde, Z. Zhou, D. Kamen, J. Oates, Q. Li, A. Alexander, and G. Gilkeson.** Univ. of Texas Southwestern Med. Ctr.
- HUM.258 **45.9** Hypomethylation of *STAT1* and *HLA-DRB1* in CD8+ T cells is associated with type-I interferon dependent activation of CD4+ T cells in systemic lupus erythematosus. **A. Sawalha, S. Miller, P. Coit, E. Gensterblum-Miller, P. Renauer, N. Kilian, and M. Schonfeld.** Univ. of Michigan Med. Sch., Yale Univ. and Georgetown Univ.
- HUM.259 **45.10** *Lupus susceptibility gene Esrrg* regulates Treg development and suppressive function through mitochondrial metabolism. **W. Li, S. Choi, A. Titov, G. Abboud, and L. Morel.** Univ. of Florida.
- HUM.260 **45.11** Response Gene to Complement-32 Expression Is Upregulated in Lupus T cells and Promotes IL-17A Expression. **V. Rus, A. Tatomir, V. Nguyen, and H. Rus.** Univ. of Maryland Sch. of Med. and VA Maryland Hlth. Care Sys.
- HUM.261 **45.12** Lupus nephritis: the roles of C1q and C3 in preventing antibody mediated injury. **S. Skopelja-Gardner, Y. Peng, L. Colonna, X. Sun, L. Tanaka, D. Salant, and K. Elkon.** Univ. of Washington and Boston Univ.
- HUM.262 **45.13** Increased NKp44 (-) ILC3s in the peripheral blood of patients with Crohn's disease. **J. Li, J. Drouur, and S. Glover.** Univ. of Florida.
- HUM.263 **45.14** Role of TNF α Antagonists in Susceptibility to Mycobacterial Infection in Assn. with Genet. Polymorphisms in Crohn's Disease. **A. Qasem and S. Naser.** Univ. of Central Florida Col. of Med.
- HUM.264 **45.15** Hypoxia boosts Th17-cell responses in inflammatory bowel disease through increased efflux of ligands reactive with the aryl-hydrocarbon-receptor. **M.S. Longhi, A. Xie, R. Robles, H. Zhang, E. Csizmadia, Y. Wu, A. Moss, and S. Robson.** Beth Israel Deaconess Med. Ctr., and Harvard Med. Sch.
- HUM.265 **45.16** Immunological and electrophysiological characterization of T-cell subsets in inflammatory bowel diseases. **G. Tajti, K. Palatka, P. Hajdu, T. Szanto, and G. Panyi.** Univ. of Debrecen, Hungary.
- HUM.266 **45.17** *Lactobacillus salivarius* metabolites modulate the pathogenesis of rheumatoid arthritis. **J. Lingjuan and Z. Xuan.** Peking Union Med. Col. Hosp., China.
- HUM.267 **45.18** Enhanced interferon gamma response contributes to disease remission in Rheumatoid Arthritis. **V. Sharma, B. Pope, M. Bolland, R. Reynolds, D. Sun, S.L. Bridges, and C. Raman.** Univ. of Alabama, Birmingham.
- HUM.400 **45.19** Selective inhibition of Tfh cells by a small molecule inhibitor abrogates progression of experimental inflammatory arthritis. **X. Zhang, F. Migliore, L. Hellmers, S. Bradley, J. Zakem, W. Davis, Z. You, and R. Quinet.** Inst. of Translational Res., Ochsner Hlth. Syst., Ochsner Hlth. Syst., Univ. of Queensland Sch. of Med. Brisbane, Australia and Tulane Univ. Hlth. Sci. Ctr.
- HUM.401 **45.20** WITHDRAWN.

SATURDAY—POSTER SESSIONS

- HUM.402 **45.21** Novel *UNC13D* intronic variant disrupting a NFκB enhancer in a patient with recurrent macrophage activation syndrome and systemic juvenile idiopathic arthritis. **R. Cron, G. Schulert, M. Zhang, A. Husami, N. Fall, H. Brunner, K. Zhang, and A. Grom.** Univ. of Alabama, Birmingham and Cincinnati Children's Hosp. Med. Ctr.
- HUM.403 **45.22** WITHDRAWN.
- HUM.404 **45.23** dsRNA induced intestinal epithelial cell activation of immune dysfunction in type 1 diabetes. **S. Wallet, G. Golas, M. Tyler, and H. Sorenson.** Univ. of Florida.
- HUM.405 **45.24** Blood-based untargeted metabolomics in Relapsing-Remitting Multiple Sclerosis revealed testable therapeutic target. **S. Giri, L. Poisson, J. Singh, I. Datta, H. Suhail, A. Mangalam, M. Cerghet, S. Elias, and R. Rattan.** Henry Ford Hlth. Sys. and Univ. of Iowa Carver Col. of Med.
- HUM.406 **45.25** Validation and discovery of mechanisms that promote vitiligo pathogenesis using single-cell RNA-sequencing of cells isolated from skin interstitial fluid. **J. Strassner, K. Gellatly, M. Rashighi, M. Ahmed, P. McDonel, M. Garber, and J. Harris.** Univ. of Massachusetts Med. Sch.
- HUM.407 **45.26** WITHDRAWN.
- HUM.408 **45.27** WITHDRAWN.
- HUM.409 **45.28** Integration of genome-wide transcriptome and DNA methylome uncovered aberrant methylation-regulated genes and pathways in the peripheral blood mononuclear cells of systemic sclerosis. **Q. Li, H. Zhu, C. Zhu, W. Mi, X. Zuo, and H. Luo.** Univ. of Texas Southwestern Med. Ctr., Xiangya Hosp., Central South Univ., China and Univ. of Texas Southwestern Med. Ctr.
- HUM.410 **45.29** Immune mechanisms in the pathogenesis of idiopathic anterior uveitis. **N. Bora, B. Matta, and P. Bora.** Jones Eye Inst., Univ. of Arkansas for Med. Sci.
- HUM.411 **45.30** Profiling Autoantibodies in Idiopathic Inflammatory Myopathies. **Q. Li, L. Wang, C. Zhu, M. Yan, X. Zuo, and H. Zhang.** Univ. of Texas Southwestern Med. Ctr., Xiangya Sch. of Med., Central South Univ., China, Xiangya Hosp. and Central South Univ., China.
- HUM.412 **45.31** Profiling Serum Antibody Specificities in Infants Reveals a Significant Number with Autoreactive Antibodies. **N. van Oers, P. Raj, P. Pichilingue-Reto, I. Dozmorov, M. T. de la Morena, and E. Wakeland.** Univ. of Texas Southwestern Med. Ctr.
- HUM.413 **45.32** Autoimmune regulator gene supports maternal-fetal immune tolerance during early pregnancy. **E. Gillis-Buck, J. Bautista, M. Anderson, and T. MacKenzie.** Univ. of California, San Francisco.
- HUM.414 **45.33** Anti-LAMP-2 Antibodies induced NETs Transfer Autoantigens to Dendritic Cells and Result in CD4+ T cells Differentiation into Th17 Cells. **J. Zhang, W. Shi, Y. Zhang, and S. Tang.** Xinqiao Hosp., Army Military Med. Univ., China.
- HUM.415 **45.34** Formation of an Argonaut-independent miRNA-mRNA Complex with DDX6 Orchestrates MTOR-dependent Regulation of T-cell differentiation. **N. Zhang, G. Hu, H. Pena, J. Qiu, Y. Park, G. Uzel, S. Datta, J. Steiner, B. Kelsall, and P. Williamson.** NIAID, NIH and NINDS, NIH.
- HUM.416 **45.35** Pan-Immune Initiative: building an integrated T and B cell receptor repertoire map for immune-related diseases. **X. Liu, W. Zhang, J. Wu, L. Lin, J. Nie, M. Zhao, and Q. Lu.** BGI-Shenzhen, China and The Second Xiangya Hosp., Central South Univ.
- HUM.417 **45.36** Mast cell accumulation drives allergy-driven chronic pain responses in outbred mice. **D. Chatterjea, E. Arriaga-Gomez, N. Neamonitaki, J. Kline, and B. Boo.** Macalester Col.
- HUM.418 **45.37** Natural killer cell dysregulation underlies atopic dermatitis. **M. Mack, J. Brestoff, H. Niu, T. Whelan, L. Oetjen, N. Bodet, F. Wang, A. Xu, E. Park, D. Margolis, W. Yokoyama, and B. Kim.** Washington Univ. Sch. of Med. in St. Louis, Washington Univ. Sch. of Med., Cincinnati Children's Hosp. Med. Ctr. and Perelman Sch. of Med., Univ. of Pennsylvania.
- HUM.419 **45.38** The expression of CD22 and CD72 on B cells negatively correlate with IgE level in eosinophilic chronic rhinosinusitis with nasal polyps. **H. Wang, J. Song, Z. Wang, J. Ruan, and Z. Liu.** Tongji Hosp., Tongji Med. Col., Huazhong Univ. of Sci. and Technol., China.
- HUM.420 **45.39** The respective contributions of P2X7 receptor variants to the development of psoriasisform dermatitis. **Y. Yang, M. Killeen, J. Diaz-Perez, and A. Mathers.** Univ. of Pittsburgh and Northshore Univ. Hlth. Sys.
- HUM.421 **45.40** Characterization and isolation of rhesus macaque eosinophils. **F. Legrand, K. Stokes, S. G. Hong, C. Tocheny, K. Mayer-Barber, C. Dunbar, and A. Klion.** NIAID, NIH and NHLBI, NIH.
- HUM.422 **45.41** Novel insights into the puberty switch mechanisms of the sex bias in human asthma. **M. Coden, B. Jeong, S. Chiarella, R. Rodriguez, and S. Berdnikovs.** Feinberg Sch. of Med., Northwestern Univ.
- HUM.423 **45.42** Gut and Oral Microbiota, Immunity and Clinical Features in Taiwanese Children with Atopic Dermatitis. **H. Yen, P. Yang, C. Wei, and P. Wu.** China Med. Univ., Taiwan and China Med. Univ. Hosp., Taiwan.
- HUM.425 **45.44** A myeloid population potentially corresponding to myeloid monocytic suppressor cells (MoMDSCs) is increased in the blood of Rheumatoid Arthritis patients and associated with osteoclastogenesis. **C. Macaubas, F. Gaertner, C. Yeh, N. Rajasekaran, A. Iltstad-Minnihan, M. Nakamura, and E. Mellins.** Stanford Univ. and Univ. of California, San Francisco.
- HUM.428 **45.47** T cell receptor mining of RNA-Seq data to gain insight into inflammatory responses: correlative studies compare the αβ to the γδ T cell infiltrate in psoriasis. **A. Marusina, A. Merleev, M. Shimoda, and E. Maverakis.** Univ. of California, Davis.

- HUM.429 **45.48** Autoreactive-prone CD21^{lo} B cells increased in scleroderma patients with interstitial lung disease. **K. Vowell, E. Wilfong, L. Crofford, and P. Kendall.** Vanderbilt Univ. Med. Ctr.
- HUM.430 **45.49** A Novel Mendelian Dis. of Autoimmunity caused by Mutations in a small GTPase. **M. Leney-Greene, A. Park, B. Chao, S. Vilarinho, H. Su, A. Ozen, and M. Lenardo.** NIAID, NIH, Univ. of Oxford, United Kingdom, Yale Sch. of Med. and Marmara Univ., Turkey.
- HUM.431 **45.50** Live or let die: pyroptosis and inflammasome activation in glial cells during multiple sclerosis and experimental autoimmune encephalomyelitis. **B. McKenzie, M. Mamik, L. Saito, R. Boghoozian, M.C. Monaco, G. Major, J. Lu, W. Branton, and C. Power.** Univ. of Alberta, Canada, Natl. Inst. of Hlth. and McMaster Univ., Canada.

46. INNATE LEUKOCYTE RESPONSES

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- IRC.432 **46.1** 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD)-induced myeloid derived suppressor cells (MDSC) have heightened metabolic activity which correlates with microRNA and gene expression involved in immunosuppression. **W. Neamah, P. Nagarkatti, and M. Nagarkatti.** Med. Univ. of South Carolina.
- IRC.433 **46.2** Investigating the role of CX3CR1 in a GITRL- dependent signal 4 checkpoint during LCMV clone 13 infection. **Y. Chang, K. Wang, and T. Watts.** Univ. of Toronto, Canada.
- IRC.434 **46.3** Complement 5a galvanizes immune inflammation in Hunter syndrome. **M. Pandey, C. Prada, A. Magnusen, T. Nyamajenere, M. Mckay, J. Rapien, and J. Köhl.** Univ. of Cincinnati Col of Med., Cincinnati Children's Hosp. Ctr. and Inst. for Syst. Inflammation Res., Univ. of Lübeck, Germany.
- IRC.435 **46.4** Calcineurin positively regulates TCR-induced LFA-1-dependent cell adhesion via dephosphorylation of Lck Ser-59. **S. Otsuka, D. Dutta, P. Mittelstadt, and J. Ashwell.** NCI, NIH.
- IRC.436 **46.5** Regulation of necroptotic factors in gastric cancer cells through miR-93-5p and EBV-miR-BART 18-3p. **S.H. Kim, D. Choi, D. Hur, and Y. Kim.** Inje Univ. Col. of Med., South Korea.
- IRC.437 **46.6** Non-canonical autophagy mediates immunosuppression during challenge. **J. Martinez.** NIEHS, NIH.
- IRC.438 **46.7** The role of RIPK1 in CD11c+ mononuclear phagocytes in intestinal homeostasis and tissue repair. **C. Park and F. Chan.** Univ. of Massachusetts Med. Sch.
- IRC.439 **46.8** The Effect of Exogenously added and Endogenously Produced Cytokines on the Regulation of Inflammatory Mediators and SOCS Proteins in Mouse Macrophages Exposed to *Chlamydia muridarum* Major Outer Membrane Protein. **S. Duncan, R. Sahu, S. Singh, and V. Dennis.** Ctr. for Nanobiotechnology Res., Alabama State Univ., Montgomery.
- IRC.440 **46.9** Aging-associated alterations in lymphatic vessels and mast cells in perilymphatic tissues. **S. Pal, C. Meininger, O. Gasheva, W. Griffith, D. Zawieja, and A. Gashev.** Texas A&M Hlth. Sci. Ctr.
- IRC.441 **46.10** Role of Vps33B in regulation of inflammatory responses. **M. McDaniel, C. Tracy, H. Kramer, and C. Pasare.** Univ. of Texas Southwestern Med. Ctr.
- IRC.442 **46.11** Use of fluorescent Fab/Ab complexes and IncuCyte live-cell analysis to dynamically track cell surface markers and cell populations in mixed cultures. **G. Lovell, N. Bevan, H. Campwala, V. Blancheteau, T. Dale, N. Dana, N. Holtz, E. Endlsey, and D. Trezise.** Essen BioScience Ltd, United Kingdom and Essen BioScience Inc, USA.
- IRC.443 **46.12** ILC2-derived IL-13 likely promotes development of peanut allergy. **J. Krempski, K. Iijima, T. Kobayashi, and H. Kita.** Mayo Grad. Sch. and Mayo Clin.
- IRC.444 **46.13** Liver-specific programming of myeloid cells promotes intrahepatic immunosuppression. **P. Guha, J. Gardell, M. Lopes, N. Espat, and S. Katz.** Boston Univ. Sch. of Med.
- IRC.445 **46.14** Spanning tree progression analysis of density normalized events (SPADE) identification of novel myeloid derived suppressor cells (MDSC) subsets. **J. Talmadge, P. Warkentin, H. Britton, L. Klassen, and K. Cole.** Univ. of Nebraska Med. Ctr.
- IRC.446 **46.15** Regulation of NKT cell function by a 0.1Mbp interval on chromosome 1 encompassing *Fcgr3*. **V. DeVault, M. Malagic, L. Mei, O. Dienz, G. Lilley, P. Benoit, J. Ather, M. Poynter, and J. Boyson.** Univ. of Vermont.
- IRC.447 **46.16** Profiling Mesenchymal Stem Cell Immunomodulation *In Vitro*. **J. Bonnevier, D. Finkel, D. Galitz, M. Andersen, S. Klingenberg, J. Rivard, C. Hammerbeck, and J. Aho.** Bio-Techne.
- IRC.448 **46.17** MCP-1 plays a critical role in neutrophil function and pyroptosis during Carbapenem-Resistant *Klebsiella* Pneumoniae. **L. Jin, L. Ghimire, S. Paudel, S. Cai, T. Rangasamy, and S. Jeyaseelan.** Louisiana State Univ.
- IRC.449 **46.18** Combining Drop Array Laminar Flow Processing and Image-based Flow Cytometry to Evaluate Changes in Monocyte Intracellular Cytokine Production. **M. Gary, E. Tanner, S. Stelly, A. Davis, E. Bowman, and B. McFarlin.** Univ. of North Texas.



SATURDAY—POSTER SESSIONS

- IRC.450 **46.19** A novel kynurenine-dependent circuit in DC1 promote IDO1 expression in DC2 leading to experimental autoimmune encephalomyelitis suppression. **M. Gargaro, G. Scalisi, C. Briseño, G. Manni, V. Durai, P. Bagadia, P. Puccetti, T. Murphy, K. Murphy, and F. Fallarino.** Univ. of Perugia, Italy, Washington Univ. in St. Louis, Sch. of Med. and Howard Hughes Med. Inst., Washington Univ. in St. Louis Sch. of Med.
- IRC.451 **46.20** Tart cherry extract improves skeletal muscle recovery by increasing type II MHC expression, MCP-1 and HGF secretion, and attenuating ROS production by neutrophils. **M. Pelletier, K. Szymczak, A. Barbeau, E. Bishop, B. Johnson, A. Lee, K. O'Fallon, and P. Gaines.** Univ. of Mass, Lowell and Natick Soldier Res., Develop. and Engin. Ctr.
- IRC.452 **46.21** Aryl hydrocarbon Receptor Activation in DCs Regulates thymic Function and Immune Tolerance Induction. **S. Cole, C. B. Shepherd, J. Kreitinger, and D. Shepherd.** Univ. of Montana.
- IRC.453 **46.22** Advanced age does not diminish phagocytic activity or NET production in zebrafish (*Danio rerio*) kidney leukocytes. **L. Hannum and T. Chen.** Colby Col.
- 47. T LYMPHOCYTES AND TREGS: ACTIVATION, DIFFERENTIATION AND TOLERANCE**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- IRC.454 **47.1** Expression of Eos is critical for T regulatory cell (Treg) survival and function. **A. Gokhale and E. Shevach.** NIAID, NIH.
- IRC.455 **47.2** The generation of memory CD8 T cells is regulated by intracellular Galectin-3. **M. Farhad and W. Redmond.** Oregon Hlth. and Sci. Univ., and Earle A. Chiles Res. Inst., Providence Cancer Ctr.
- IRC.456 **47.3** A mechanism involving sibling transcription factor assistance preserves the integrity of an active *Foxp3* locus in peripherally induced regulatory T cells. **S. Ghosh, Y. Rubtsov, H. Jung, S. Roy-Chowdhuri, K. Kang, S. Im, C. Surh, A. Rudensky, and D. Rudra.** Acad. of Immunology and Microbiology, Inst. for Basic Sci., South Korea, Pohang Univ. of Sci. and Technol., South Korea, Lomonosov Moscow State Univ., Russia, MD Anderson Sch. of Med., Col. of Natural Sci., Dankook Univ., South Korea, Howard Hughes Med. Inst., and Mem. Sloan Kettering Cancer Ctr.
- IRC.457 **47.4** VSIG-8 is a co-inhibitory ligand and an immune checkpoint molecule for human T cells. **J. Wang, B. Manick, M. Renelt, L. Hansen, G. Wu, and V. Kalabokis** R&D Systems and Bio-Techne.
- IRC.458 **47.5** The dynein-binding protein DISC1 plays important roles in relocating organelles to the immunological synapse during T cell activation. **M. Poenie, N. Maskalenko, and S. Nath.** Univ. of Texas, Austin and Harvard Med. Sch.
- IRC.459 **47.6** The NINJA mouse: a novel model to study tissue-specific peripheral T cell tolerance. **M. Damo and N. Joshi.** Yale Sch. of Med.
- IRC.500 **47.7** Transcriptional profiling of pathogen-specific CD4 T cells reveals key events that regulate Th17 cell priming and differentiation. **Y. Gao, K. Deason, A. Jain, I. Dozmorov, E. Wakeland, and C. Pasare.** Univ. of Texas Southwestern Med. Ctr.
- IRC.501 **47.8** Id protein function in adipose resident regulatory T cells. **A. Frias, J. Ji, H. Buechel, T. Hand, and L. D'Cruz.** Univ. of Pittsburgh Sch. of Med. and Children's Hosp. of Pittsburgh.
- IRC.502 **47.9** Role of TNF- α reception in epidermal $\gamma\delta$ T cell function during homeostasis and after TCR stimulation. **C. Matthews, C. Barba, G. Mendoza, and J. Jameson.** California State Univ., San Marcos.
- IRC.503 **47.10** The role of Runx1 in the regulation of T cell tolerance. **D. Wilfahrt, F. Hsu, J. Chung, S. R. Arocha, A. Schwab, and V.S. Shapiro.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Mayo Clin.
- IRC.504 **47.11** Hrd1 protects regulatory T cells from ER stress-induced instability and dysfunction. **Y. Xu, S. M. Cardenas, H. Jin, J. voss, I. Gau, J. Wei, E. Montauti, Y. Zhang, B. Gao, J. Mathew, and D. Fang.** Northwestern Univ., St. Jude Children's Res. Hosp. and The Fourth Military Med. Univ., China.
- IRC.505 **47.12** Fetal naive T cells are primed for preferential regulatory T cell differentiation through increased chromatin accessibility and expression at the Helios locus. **M. Ng and T. Burt.** Univ. of California, San Francisco.
- IRC.506 **47.13** RNA-binding protein HuR is required for suppressive function but not development of Foxp3⁺ CD4⁺ Tregs. **U. Atasoy, J. Ellis, T. Taylor, and S. Ridenhour.** Univ. of Michigan Med. Sch. and Univ. of Missouri.
- IRC.507 **47.14** GDF15 and BMP4 co-regulate stress erythropoiesis and Treg induction to maintain erythroid homeostasis and resolve inflammation during infection. **J. Fraser, A. Dey, S. Nettleford, L. Zhao, P. Hankey-Giblin, K. Prabhu, N. Xiong, and R. Paulson.** Pennsylvania State Univ.
- IRC.508 **47.15** Neurokinin 1 receptor-signaling sustains T-cell survival during thymus development and following T-cell activation in secondary lymphoid organs. **A. Larregina, T. Sumpter, D. Rojas-Canales, O. Tkacheva, W. Shufesky, L. Faló, and A. Morelli.** Univ. of Pittsburgh Sch. of Med.
- IRC.509 **47.16** Mechanism underlying the induction of Foxp3⁺ regulatory T cells by lactoferrin. **P. Kim, Y. Jang, H. Song, G. Seo, S. Kang, J. H. Lee, B. Kwon, and H. Ko.** Kangwon Natl. Univ., South Korea.
- IRC.510 **47.17** Activation induced decrease and recovery of TCR 2D affinity and bond lifetime. **R. Andargachew, E. Kolawole, and B. Evavold.** Emory Univ. and Univ. of Utah Sch. of Med.
- IRC.511 **47.18** Prostaglandin I₂ promotes Treg function in vitro. **A. Norlander, M. Bloodworth, and R.S. Peebles.** Vanderbilt Univ. Med. Ctr.

- IRC.512 **47.19** Tetrandrine (TET) up-regulated mTNF expression on dendritic cells and consequently induces TNFR2 mediated proliferation of Tregs. **T. He, D. Yang, X. Chen, and J. Oppenheim.** State Key Lab. of Quality Res. in Chinese Med., Inst. of Chinese Med. Sci., Univ. of Macau, Macao SAR, China, Cancer and Inflammation Program, Ctr. for Cancer Res., Frederick Natl. Lab. for Cancer Res. and NCI, NIH.
- IRC.513 **47.20** Tregs orchestrate antigen specific suppression via stripping cognate peptide-MHCII from the DC surface. **B. Akkaya, M. Akkaya, Y. Oya, J. A. Souza, A. Holstein, O. Kamenyeva, J. Kabat, D. Dorward, D. Glass, and E. Shevach.** NIAID, NIH.
- IRC.514 **47.21** Functions of GATA-3 Expression in Regulatory T Cells During Type 1 and Type 2 Inflammation. **R. Gurram and J.J. Zhu.** NIAID, NIH.
- IRC.515 **47.22** Subset-specific neurotransmitter receptor expression tunes T cell activation. **K. Rosenberg and N. Singh.** Univ. of Maryland, Baltimore.
- IRC.516 **47.23** CD11b^{HIGH} CD11c^{LOW} Ia^{LOW} DCs regulate T-cells activation in the experimental autoimmune uveitis. **W. Lin, X. Wang, and Z. Fan.** La Jolla Inst. for Allergy and Immunology.
- IRC.517 **47.24** Glutamate receptors provide costimulatory signals to improve T cell immune response. **A. Shanker, M. T. de Aquino, T. Hodo, and R. Uzhachenko.** Meharry Med. Col. Sch. of Med. and Vanderbilt Univ. Sch. of Med.
- IRC.518 **47.25** PSGL-1 regulates the extent of TCR-dependent activation in T cells and prevents their suppression by Tregs. **D. Otero, A. Takahashi, G. Chao, D. Leung, and L. Bradley.** Sanford Burnham Prebys Med. Discovery Inst. and Lilly Biotechnology Ctr.
- IRC.519 **47.26** Chaperone mediated autophagy and T cell function. **C. Reynolds and F. Macian.** Albert Einstein Col. of Med.
- IRC.520 **47.27** Role of the CD27/CD70 pathway in regulatory T cell function. **N. Bowakim.** Free Univ. of Brussels, Belgium.
- 48. B CELL BIOLOGY**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- IRM.522 **48.1** NFAT1 nuclear translocation is impaired in murine newborn B lymphocytes. **J. Sakai, A. Coleman, and M. Akkoyunlu.** CBER, FDA.
- IRM.523 **48.2** Differential regulation of B cell responses to acute and chronic infection by histone-modifying complexes. **K. Good-Jacobson, A. Di Pietro, C. Yiannis, and R. Farighi.** Monash Univ., Australia.
- IRM.524 **48.3** IRF4 and IRF5 transcription factors exhibit shared and distinct roles in regulating human B cell differentiation and function. **T. Shih, S. De, B. Zhong, and B. Barnes.** Feinstein Inst. for Med. Res., Rutgers Univ., and Pfizer, Inc.
- IRM.525 **48.4** AKT targets CSK to regulate proximal BCR signaling in germinal center B cells. **W. Luo, W. Hawse, N. Trivedi, F. Weisel, and M. Shlomchik.** Univ. of Pittsburgh.
- IRM.526 **48.5** The role of ERK2 in germinal center B cell selection. **A. Negron, S. Jeffreys, and T. Forsthuber.** Univ. of Texas, San Antonio.
- IRM.527 **48.6** Stem cell-like T-bet⁺ IgM memory cells generate multi-lineage effector B cells. **R. Levack, K. Kenderes, B. Cabrera-Martinez, and G. Winslow.** State Univ. of New York Upstate Med. Univ.
- IRM.528 **48.7** Immune regulation by glucocorticoids can be linked to cell-lineage-specific transcriptional responses. **L. Franco, M. Gadkari, K. Howe, J. Sun, P. Kumar, L. Kardava, A. Biancotto, Z. Hu, I. Fraser, S. Moir, R. Germain, and J. Tsang.** NIAID, NIH and NIH Clin. Ctr. Pharmacy.
- IRM.529 **48.8** Activation-induced cytidine deaminase mutator activity targeting through phosphorylation. **K. McBride, Y. Mu, and M. Zelazowska.** The Univ. of Texas MD Anderson Cancer Ctr.
- IRM.530 **48.9** T Follicular Regulatory (TFR) Cells Regulate B Cell Responses in Both, T-cell Dependent and Independent Pathways. **M. Lopez-Ocasio.** NIAID, NIH.
- IRM.531 **48.10** WITHDRAWN.
- IRM.532 **48.11** The unfolded protein response, microRNA-214, and expression of the transcription factor XBP1. **J. Brewer, K. Jackson, E. Lee, and K. Smith.** Liberty Univ. Col. of Osteopathic Med.
- IRM.533 **48.12** Uracil DNA Glycosylase of Gammaherpesvirus alters somatic hypermutation through error-free DNA repair. **Y. Mu, Q. Dong, M. Zelazowska, Z. Chen, J. Plummer, L. Krug, and K. McBride.** The Univ. of Texas MD Anderson Cancer Ctr. and Stony Brook Univ.
- IRM.534 **48.13** Cell culture oxygen levels affect B cell migration through HIF-1a signaling. **A. Henn, J. Garigen, V. Cipolla, S. Perry, L. Farovitch, R. Yerden, M. Zand, and S. Hilchey.** BioSpherix and Univ. of Rochester Med. Ctr.
- IRM.535 **48.14** Role of E3 ubiquitin ligase GRAIL in B cell activation and tolerance. **R. Nurieva, S. Bieerkehazhi, T. Waseem, O. Hoang, A. Sahoo, A. Alekseev, and E. Galkina.** MD Anderson Cancer Ctr. and Eastern Virginia Med. Sch.
- IRM.536 **48.15** Determining the local transcriptional response to DNA double-strand breaks. **C. Purman, B. Sleckman, and E. Oltz.** Washington Univ. in St. Louis and Weill Cornell Med. Col.
- IRM.537 **48.16** IRF4 regulates the rate of cell cycle during B cell differentiation. **D. Patterson, C. Scharer, and P. Chan.** Emory Univ. Sch. of Med.

SATURDAY—POSTER SESSIONS

- IRM.538 **48.17** IgM pentamer shapes an irregular structure providing an open groove to associate with AIM protein. **T. Miyazaki, E. Hiramoto, and S. Arai.** Univ. of Tokyo, Japan.
- IRM.539 **48.18** Small molecule inhibitors of Activation-Induced Deaminase. **J. Alvarez-Gonzalez, R. Maul, R. Kohli, and P. Gearhart.** NIA, NIH and Univ. of Pennsylvania.
- IRM.540 **48.19** Methyl-CpG binding domain protein-1 polymorphisms impact immune homeostatic levels of IgG. **B. Hampton, K. Noll, A. Whitmore, K. Plante, M. Ferris, and M. Heise.** Univ. of North Carolina, Chapel Hill.
- IRM.541 **48.20** Hypoxia-Inducible Factors regulate metabolism and germinal center response. **S. Cho, A. Raybuck, E. Kemboi, and M. Boothby.** Vanderbilt Univ. Sch. of Med.
- 49. INNATE IMMUNE CELLS AND MECHANISMS**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- INC.542 **49.1** Type 2 immune mechanism is activated in carbon nanotube-induced lung inflammation and fibrosis. **J. Dong and Q. Ma.** CDC.
- INC.543 **49.2** Oral NaHCO₃ activates the splenic anti-inflammatory pathway; evidence vagal signals are transmitted via neuronal like signaling in mesothelial cells. **P. O'Connor, S. Ray, B. Baban, and R. Harris.** Augusta Univ.
- INC.544 **49.3** cIAP1/2-TRAF2-SHP1-Src-MyD88 complex regulates LPS-induced IL-27 production through NFκB activation in human macrophages. **A. Kumar, A. Busca, N. Gajanayaka, and J. Angel.** Univ. of Ottawa, Canada and Ottawa Hlth. Res. Inst., Canada.
- INC.545 **49.4** CD38: biomarker and functional role in human macrophages. **M. Guerau-De-Arellano, S. Amici, N. Young, T. Papenfuss, J. Torrelles, and W. Jarjour.** Ohio State Univ. Col. of Med., Ohio State Univ., Ohio State Univ. Col. of Vet. Med. and Texas Biomed. Res. Inst.
- INC.546 **49.5** Real-time visualisation and quantification of Neutrophil Extracellular Traps. **G. Lovell, N. Bevan, T. Dale, and D. Trezise.** Essen BioScience Ltd, United Kingdom.
- INC.547 **49.6** Neutrophil cathepsin G inhibits hapten-presenting dendritic cell production of IL-12 and skewing of hapten-reactive CD4 T Cell development to IFN-γ- and IL-17-producing effector cells in allergic contact sensitivity. **D. Kish, S. Min, and R. Fairchild.** Cleveland Clin. and Swarthmore Col.
- INC.548 **49.7** Cardiac fibroblast pretreated by ANG II induced M1 phenotype macrophage selective apoptosis through TNF-TNFR1 and survival M1 conversion into M2 depended on Leptin-PI3K-Akt pathway. **Z. Su, H. Lu, X. Shao, R. Chen, Y. Tian, G. Zong, and H. Xu.** Jiangsu Univ., China, Nantong Univ., China and Anhui Med. Univ., China.
- INC.549 **49.8** Modulation of TLR2/1 by PAM3CSK4 to induce generation of immunosuppressive macrophages as a therapeutic approach for SLE. **B. Horuluoglu, D. Bayik, E. Goguet, D. Tross, L. Blanco, M. Kaplan, and D. Klinman.** NCI, NIH, Bilkent Univ., Ankara, Turkey, Lerner Res. Inst., Cleveland Clin., and NIAMS, NIH.
- INC.550 **49.9** Role of the KLRG1 pathway in the immune response. **A. Tata and L. Brossay.** Brown Univ.
- INC.551 **49.10** Targeting colorectal cancer metastasis-initiating cells through hepatic iNKT cells. **H. Feng, A. Lu, and J. Wang.** Ludwig Maximilian Univ. Hosp., Germany, Shanghai Jiao Tong Univ. Rui jin Hosp., China and Shanghai Jiao Tong Univ. Renji Hosp., China.
- INC.552 **49.11** Hepatic Myeloid Cell Diversity During Fibrosis and Nonalcoholic Steatohepatitis. **T. Troutman, J. Seidman, V. Link, M. Hosseini, M. Sakai, C. Bruni, Z. Ouyang, M. Pasillas, and C. Glass.** Univ. of California, San Diego.
- INC.553 **49.12** A novel methodology to modulate immune environment using synthetic mRNA. **Y. Xu, L. Huang, J. Kirschman, D. Vanover, P. Tiwari, P. Santangelo, X. Shen, and D. Russell.** Cornell Univ., Georgia Inst. of Technol. and Duke Univ.
- INC.554 **49.13** Sex differences in the acute neuroinflammatory events after experimental traumatic brain injury. **S. Doran, R. Ritzel, E. Glaser, R. Henry, A. Faden, and D. Loane.** Univ. of Maryland Sch. of Med.
- INC.555 **49.14** Macrophages and the regulation of pulmonary fibrosis by Cadherin-11. **S. To and S. Agarwal.** Baylor Col. of Med.
- INC.556 **49.15** Low NK Cell ADCC as a Risk Factor in Chronic Fatigue Syndrome (CFS): familial Risk for CFS or Differences between Human Populations? **D. Hudig, J. Tang, A. Sung, M. Guglielmo, J. Smith-Gagen, L. Bateman, and D. Redelman.** Univ. of Nevada, Reno Sch. of Med., Bateman Horne Ctr., SLC and Univ. of Texas.
- INC.557 **49.16** Early burst of glycolysis in microglia regulates mitochondrial dysfunction in oligodendrocytes under neuro-inflammation. **S. Giri, H. Suhail, J. Singh, A. Kumar, and R. Rattan.** Henry Ford Hlth. Sys. and Wayne State Univ. Sch. of Med.
- INC.558 **49.17** Preoperative exercise therapy protects the liver from ischemia-reperfusion injury. **H. Zhang, J. Ren, H. Yazdani, D. Van Der Windt, J. Zhang, A. Tsung, and H. Huang.** Union Hosp., Huazhong Univ. of Sci. and Technol., China and Univ. of Pittsburgh Med. Ctr.
- INC.559 **49.18** Identification and functional analysis of NKp46+ natural killer cells from peripheral blood of squirrel (*Saimiri* spp.) and owl monkey (*Aotus* spp.). **P. Nehete, S. Chitta, B. Nehete, J. Vanchiere, and C. Abee.** Univ. of Texas MD Anderson Cancer Ctr. and Louisiana State Univ. Hlth. Sci. Ctr., Shreveport.
- INC.600 **49.19** Bisphenol-A diminishes neutrophil recruitment in zebrafish. **S. Carson, S. Ohashi, D. Gerber, T. Tieu, E. Walser-Kuntz, and D. Walser-Kuntz.** Carleton Col. and Univ. of Iowa.
- INC.601 **49.20** WITHDRAWN.
- INC.602 **49.21** Different bactericidal and inflammatory activities of human and mouse blood. **T. Lin, S. Moorlag, J. Liu, M. Ahmed, S. Thundivalappil, F. Riley, and H.S. Warren.** Massachusetts Gen. Hosp.
- INC.603 **49.22** Morphine dysregulates Paneth cell antimicrobial peptide secretion in a TLR2 dependent manner. **R. Jalodia, J. Meng, M. Sharma, S. Ramakrishnan, and S. Roy.** Univ. of Miami.
- INC.604 **49.23** Lactic acid suppresses LPS-induced cytokine production in mast cells by limiting glycolysis and ATP availability. **H. Caslin, D. Abeyayehu, A.A. Qayum, A. Hoeflerlin, and C. Chalfant.** Virginia Commonwealth Univ. and Univ. of South Florida.

- INC.605 **49.24** Histone h4 as a trigger for innate immune cells. **I. Hsieh, M. White, X.D. Luna, and K. Hartshorn.** Boston Univ. Sch. of Med. and Boston Med. Ctr.
- INC.606 **49.25** The transcription factor ROR alpha preserves group 3 innate lymphoid cell lineage identity and function. **M. Messing, B.C. Lo, M.R. Hughes, D.C. Hernaez, and K.M. McNagny.** Univ. of British Columbia, Canada.
- INC.607 **49.26** Modulation of oxidative burst with exposure to cytokines in neutrophil cell activation. **P. Swain, N. Romero, and B. Dranka.** Agilent Technologies.
- INC.608 **49.27** Vagal tonic activity modulates immune suppression in sepsis survivors. **M. Rana, M. Son, Y. Fei, A. La Bella, M. Ochani, P. Y. Chiu, B. Sherry, and B. Diamond.** Feinstein Inst. for Med. Res.
- INC.609 **49.28** Resistance of macrophages to pore-forming toxins might depend on MEK1/2 and MLK3 activity. **S. Ray and P. Keyel.** Texas Tech Univ.
- INC.610 **49.29** WITHDRAWN.

50. PATHOGEN CONTROL AND EVASION STRATEGIES

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- INM.612 **50.1** Glutathione Reductase Promotes Fungal Clearance and Suppresses Inflammation During Systemic *Candida albicans* Infection. **Y. Liu, V. Kim, J. Li, A. Batty, S. Crowell, Y. Jin, J. Zhang, and L. Nelin.** The Res. Inst. at Nationwide Children's Hosp., The Ohio State Univ. Col. of Med. and Univ. of Iowa Carver Col. of Med.
- INM.613 **50.2** RAGE inhibitor prevents cognitive dysfunction and reduces inflammatory mediators in experimental pneumococcal meningitis. **J. Generoso, A. Collodel, L. R. Simões, C. Dagostin, D. Dominguni, B. F. Lodetti, V. Giridharan, M. Michels, A. Vieira, F. Dal-Pizzol, and T. Barichello.** Universidade do Extremo Sul Catarinense, Brazil and The Univ. of Texas Hlth. Sci. Ctr., Houston.
- INM.614 **50.3** The host ubiquitin system in innate immunity and virus replication: proviral and antiviral functions of the host E3-ubiquitin ligase TRIM family. **R. Rajsbaum, M. Giraldo, P. Bharaj, C. Atkins, H. Xia, S. Rossi, B. Lee, P. Shi, and A. Freiberg.** Univ. of Texas Med. Br., Galveston, and Icahn Sch. of Med., Mount Sinai.
- INM.615 **50.4** Trajectory of neuro-inflammation and microglial activation assessed using Translocator protein (18kDa TSPO) and positron emission tomography (PET) imaging in bacterial meningitis. **T. Barichello, V. Giridharan, G. Scaini, J. Generoso, L. R. Simões, D. Dominguni, R. Hasbun, S. Selvaraj, and F. Dal-Pizzol.** Universidade do Extremo Sul Catarinense, Brazil and The Univ. of Texas Hlth. Sci. Ctr., Houston.
- INM.616 **50.5** cGAS-STING activation in Ly6Chi monocytes induces IFN γ during pulmonary pneumococcal infection. **S. Patel, H. Tucker, S. Mansouri, S. Blaauboer, and L. Jin.** Univ. of Florida and Albany Med. Col.
- INM.617 **50.6** Mechanisms Regulating IL-1 β Mediated Inflammation during Secondary Bacterial Pneumonia. **C. Lupfer, A. Rodriguez, T. Freeman, M. Rippee-Brooks, H. Abysalamah, A. Smith, J. McCullers, and T. Kanneganti.** Missouri State Univ., Univ. of Tennessee Hlth. Sci. Ctr. and St.Jude Children's Res. Hosp.
- INM.618 **50.7** AAK1 and GAK inhibitors demonstrate activity against Filoviruses. **D. Dorosky, L. Prugar, S. Pu, C. O'Brien, R. Bakken, S. De Jonghe, P. Herdewijn, J. Brannan, J. Dye, and S. Einav.** U.S. Army Med. Res. Inst. of Infectious Dis., Stanford Univ. Sch. of Med., Rega Inst. for Med. Res. and KU Leuven, Belgium.
- INM.619 **50.8** The effects of ROS on neutrophil containment of the intracellular bacteria, *Listeria monocytogenes*. **B. Okunnu and R. Berg.** Univ. of North Texas Hlth. Sci. Ctr.
- INM.620 **50.9** Defect in neutrophil function accounts for impaired anti-fungal immunity in kidney dysfunction. **C. Jawale, K. Ramani, and P. Biswas.** Univ. of Pittsburgh Sch. of Med.
- INM.621 **50.10** Inhibition of mTORC1 activity is required for the IL-12p40 response of classical CD16^{NEG} CD14⁺ primary human monocytes to *Toxoplasma gondii*. **A.M.T.S. Amancio, L. Mittereder, A. Carletti, A. Sher, and D. Jankovic.** NIAID, NIH.
- INM.622 **50.11** Metabolic barriers underlie interferon gamma-mediated restriction of intracellular bacterial pathogenesis. **J. Price, L. DiPeso, D. Nomura, and R. Vance.** Oberlin Col., Univ. of Washington and Univ. of California, Berkeley.
- INM.623 **50.12** Exploring a role for Human Herpesvirus 6B-mediated mitochondrial dysfunction in dysregulating antiviral innate immunity. **C. Birdwell and P. West.** Texas A&M Hlth. Sci. Ctr.
- INM.624 **50.13** A double edge function of type 17 immunity in *Streptococcus pneumoniae* pathogenesis during a co-infection with Influenza A Virus. **N. Khan, I. Sohail, T. Schmit, and B. Jacobson.** Univ. of North Dakota.
- INM.625 **50.14** AMP-activated kinase (AMPK) promotes innate immunity and antiviral defense against Zika virus induced ocular infection. **A. Kumar, P. Singh, and S. Giri.** Wayne State Univ. Sch. of Med. and Henry Ford Hlth. Sys.
- INM.626 **50.15** Glycyrrhizin (GL) modulates HMGB1/miR-222-associated M2bM ϕ polarization and improves host antibacterial resistance of γ -irradiated mice against gut bacteria-associated sepsis. **I. Ito, B. Loucas, S. Suzuki, M. Kobayashi, and F. Suzuki.** The Univ. of Texas Med. Br. and Univ. of North Texas Hlth. Sci. Ctr.
- INM.627 **50.16** Indispensable role of protein kinase D1 in inflammatory responses and host defense in Group B streptococci infection. **T. Yoon, P. Halder, and A. Yi.** Univ. of Tennessee Hlth. Sci. Ctr.
- INM.628 **50.17** A potential for crosstalk between inflammation, coagulation and oxidative stress host responses in malaria induced mid-gestational pregnancy loss in a rodent model. **A. Andrew, J. Moore, D. Sarr, S. Shastri, and T. Bracken.** Univ. of Georgia.
- INM.629 **50.18** Heterogeneous ribonucleoprotein M influences specific cytokine outcomes upon *Salmonella* Typhimurium infection. **K. West, K. Patrick, and R. Watson.** Texas A&M Hlth. Sci. Ctr.

SATURDAY—POSTER SESSIONS

- INM.630 **50.19** Prostaglandin E2 threshold dictates susceptibility to skin infection in diabetic mice. **N. Klopfenstein, S. Brandt, A. Judge, and C. Serezani.** Vanderbilt Univ. Med. Ctr.
- INM.631 **50.20** Therapeutic potential of staphylococcal superantigen-like protein 7 for acute complement activation mediated diseases. **Y. Li and F. Lin.** Cleveland Clin.
- INM.632 **50.21** SLAMF9 promotes inflammation and resistance to Salmonella infection. **T. Wilson, S. Clare, P. Lyons, G. Dougan, and K. Smith.** Miami Univ., Wellcome Trust Sanger Inst., United Kingdom and Univ. of Cambridge, United Kingdom.
- ### 51. IMMUNE MEMORY AND AGING
- #### Poster Session
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- LYM.634 **51.1** Regulation of human B cell function in aging: contribution of SASP (senescence-associated secretory phenotype) markers. **B. Blomberg, A. Diaz, M. Romero, and D. Frasca.** Univ. of Miami Miller Sch. of Med.
- LYM.635 **51.2** CD28 Induces Mitochondrial Respiration Dependent Reactive Oxygen Species (ROS) Signaling for Metabolic Fitness and Survival in Long-Lived Plasma Cells. **A. Utley, J. Cooper, C. Chavel, P. Peng, L. Carlson, S. Lightman, T. Kambayashi, J. Green, and K. Lee.** Roswell Park Cancer Inst., Univ. of Pennsylvania and Washington Univ.
- LYM.636 **51.3** The long chain fatty acid transporter, MFSD2A, is essential for memory CD8⁺ T cell formation and maintenance. **A. Piccirillo, W. Hawse, H. Buechel, D. Silver, and L. D'Cruz.** Univ. of Pittsburgh and Duke-NUS Med. Sch., Singapore.
- LYM.637 **51.4** Defining the role of CD69 in the formation of resident memory CD8⁺ T cells. **D. Walsh, H. B. da Silva, L. Beura, E. Breed, R. Ruscher, C. Peng, S. Hamilton, D. Masopust, and S. Jameson.** Univ. of Minnesota.
- LYM.638 **51.5** Antigen recognition by CD8⁺ T cells in non-lymphoid tissues initiates a transcriptional program of tissue-resident memory differentiation. **S. Hobbs and J. Nolz.** Oregon Hlth. and Sci. Univ.
- LYM.639 **51.6** Complement controls antiviral CD8⁺ T cell memory development and function. **K. Jhun, V.v. der Heide, P. Heeger, and D. Homann.** Icahn Sch. of Med., Mount Sinai.
- LYM.640 **51.7** Interleukin-1 and IL-23 induce innate-like immune responses by bystander-activated memory CD4⁺ T cells contributing to the autoimmune pathogenesis. **H. Lee, J. Lee, I. Kang, and J. Choi.** Hanyang Univ., South Korea and Yale Univ.
- LYM.641 **51.8** CD45RB Status Defines TCR Priming Affinity and CD8⁺ T Cell Memory Persistence. **S. Krummey, J. Jacobs, H. Kissick, B. Evavold, and M. Ford.** Emory Univ. Sch. of Med. and Univ. of Utah Sch. of Med.
- LYM.642 **51.9** Atrophied thymus produces altered repertoire of tTregs with potential to break the balance of peripheral tolerance. **R. Thomas, J. Oh, W. Wang, and D. Su.** Univ. of North Texas Hlth. Sci. Ctr.
- LYM.643 **51.10** WITHDRAWN.
- LYM.644 **51.11** WITHDRAWN.
- LYM.645 **51.12** Unique phenotypes and clonal expansions of human CD4 effector memory T cells re-expressing CD45RA. **Y. Tian, M. Babor, J. Lane, V. Schulten, V. Patil, G. Seumois, S. Rosales, Z. Fu, G. Picarda, J. Burel, J. Zapardiel-Gonzalo, R. Tennekoon, A. De Silva, S. Premawansa, G. Premawansa, A. Wijewickrama, P. Vijayanand, D. Weiskopf, A. Sette, and B. Peters.** La Jolla Inst. for Allergy and Immunol., Univ. of Colombo, Sri Lanka, North Colombo Teaching Hosp., Sir Lanka and Natl. Inst. of Infectious Dis., Sir Lanka
- LYM.646 **51.13** Efficient Enrichment of Functional ILC Subsets from Human PBMC by Immunomagnetic Selection. **Y. Valdez, S. Kyei, G. Poon, A. Kokaji, S. Woodside, A. Eaves, and T. Thomas.** StemCell Technologies Inc., Canada, Terry Fox Lab. and BC Cancer Agency, Vancouver, Canada.
- LYM.647 **51.14** Varying pMHC-TCR affinity at the memory checkpoint alters the number and phenotype of memory CD4 T cells. **M. Jones, P. Devarajan, P. Nanaware, L. Stern, E. Huseby, and S. Swain.** Univ. of Massachusetts Med. Sch.
- LYM.648 **51.15** Eomesodermin promotes a central memory phenotype in CD8⁺ T cells through the induction of IL-10. **J. Reiser, A. Gerber, K. Sadashivaiah, A. Furusawa, A. Banerjee, and N. Singh.** Univ. of Maryland, Baltimore.
- LYM.649 **51.16** WITHDRAWN.
- ### 52. MICROBIAL, PARASITIC, AND FUNGAL IMMUNITY: FUNGAL AND PARASITIC IMMUNITY
- #### Poster Session
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- MPF.650 **52.1** T cell exhaustion during murine cutaneous and visceral leishmaniasis. **D. Valadares, R.E. Davis, E. Kiser, Y. Chen, T. Borbon, and M. Wilson.** Univ. of Iowa Carver Col. of Med. and Univ. of Iowa.
- MPF.651 **52.2** TLR2-dependent bystander activation of T cells results in exacerbation of Lyme arthritis. **S. Whiteside, J. Snook, Y. Ma, F. Sonderegger, C. Fisher, C. Petersen, J. Zachary, J. Round, M. Williams, and J. Weis.** Univ. of Utah and Univ. of Illinois, Urbana-Champaign.
- MPF.652 **52.3** Identification of a novel immunomodulatory role for *Plasmodium berghei* ApiAP2 transcription factor. **M. Akkaya, A. Bansal, P. Sheehan, A. Molina-Cruz, M. Pena, C. Cimperman, T. Yazew, C. Qi, L. Orchard, P. Ross, M. Llinas, L. Miller, and S. Pierce.** NIAID, NIH, Pennsylvania State Univ. and Univ. of Chicago.
- MPF.653 **52.4** IL-4 signaling is required for optimal Th1 responses during *Leishmania major* infection. **P. Gurung and B. Poudel.** Univ. of Iowa Carver Col. of Med.
- MPF.654 **52.5** The role of transcription factor T-bet in B cell mediated responses to *Plasmodium* infection. **C. Cimperman, P. Sheehan, B. Theall, M. Pena, S. Pierce, and M. Akkaya.** NIAID, NIH.

- MPF.655 **52.6** Clustering of CD8 T cells around malaria-infected hepatocytes is rapid and is driven by antigen-specific T cells. **V. Ganusov, R. Kelemen, H. Rajakaruna, and I. Cockburn.** Univ. of Tennessee, Vienna Graduate Sch. of Population Genetics, Austria and Australian Natl. Univ., Australia.
- MPF.656 **52.7** Bone marrow-derived RELM α regulates immunity and inflammation to gastrointestinal helminth *Nippostrongylus brasiliensis* through effects on macrophages. **M. Nair.** Univ. of California, Riverside.
- MPF.657 **52.8** Splenocytes from young mice protect immunocompromised mice against death from malaria infection, but they do not proliferate well. **M. Opata, M. Smith, C. Johnson, L. Campbell, and H. Santos.** Appalachian State Univ.
- MPF.658 **52.9** *Fasciola hepatica* Glutathione S-transferase suppresses inflammatory cytokines and chemokines in vivo against lethal doses of lipopolysaccharide on C57Bl/6 mice. **V. Aguayo and A. Espino.** Univ. of Puerto Rico—Med. Sci. Campus.
- MPF.659 **52.10** Immune impact of tick-borne co-infections on canine leishmaniasis. **B. Scorza, A. Toepp, K. Mahachi, and C. Petersen.** Univ. of Iowa.
- MPF.900 **52.11** Cerebrospinal fluid neopterin and CXCL13 are suitable biomarkers for staging and detection of treatment failure in a non-human primate model of human African trypanosomiasis. **D. Maranga, M. Ngotho, V. Mwadime, G. Olouch, T. Adino, J. Kagira, M. Aema, S. Bieler, and J. Ndung'u.** Inst. of Primate Res., Kenya, Mount Kenya Univ., Kenya, Jomo Kenyatta Univ. of Agr. and Technol., Kenya and Fndn. for Innovative and New Diagnostics, Switzerland.
- MPF.901 **52.12** Myeloid Cells in the Immune Response to *Giardia*. **M. Fink, J. Maloney, and S. Singer.** Georgetown Univ.
- MPF.902 **52.13** A malaria protein factor induces IL-4 expression by dendritic cells via TLR/MyD88-independent signaling, promoting Th2 development. **X. Wu, N. Gowda, and C. Gowda.** Pennsylvania State Univ. Col. of Med.
- MPF.903 **52.14** Peptide-Specific Engagement of Cerebrovascular Endothelial Cells Promotes Dysfunctional Calcium Signaling During Experimental Cerebral Malaria. **M. Manglani, A. Silva, and D. McGavern.** NINDS, NIH, Pennsylvania State Univ. Col. of Med., and Sch. of Engin. and Applied Sci., Univ. of Pennsylvania.
- MPF.904 **52.15** Mechanisms of maintenance of protection from persistent malaria infection by CD4 effector and effector memory T cells. **R. Stephens, S. Ibitokou, and M. Opata.** Univ. of Texas Med. Br. and Appalachian State Univ.
- MPF.905 **52.16** Infiltrating CCR2+ Monocytes Drive Lethal Immunopathology during Cryptococcal Meningoencephalitis. **J. Xu, L. Neal, M. Ivey, R. Lopez, B. Segal, J. Osterholzer, P. Williamson, and M. Olszewski.** Ann Arbor VA Hlth. Syst., Univ. of Michigan Med. Sch., Univ. of Michigan and NIAID, NIH.
- MPF.906 **52.17** *Mycobacterium tuberculosis* stimulates neutrophil infiltration into the lungs through activation of S100A proteins in an early secreted antigenic target of 6-kDa dependent manner. **B. Jung, B. Adeniyi, and B. Samten.** Univ. of Texas Hlth. Sci. Ctr., Tyler.
- MPF.907 **52.18** IL-12 and IL-23 dependent NK cell response is essential for protective immunity against secondary *Toxoplasma gondii* infection. **D. Ivanova and J. Gigley.** Univ. of Wyoming.
- MPF.908 **52.19** WITHDRAWN.
- MPF.909 **52.20** CARD9 adaptor molecule is indispensable for protection against Cryptococcosis. **A. Campuzano, N. Castro-Lopez, A. Martinez, C. L. Wager, and F. Wormley.** Univ. of Texas, San Antonio.
- MPF.910 **52.21** Novel epitope derived from *Plasmodium berghei* liver-stage antigen induces a subset of protective CD8 T cells against sporozoite challenge. **A. Pichugin, S. Zarlign, L. Perazzo, P. Duffy, H. Ploegh, and U. Krzych.** Walter Reed Army Inst. of Res., NIAID, NIH and Boston Children's Hosp.
- MPF.911 **52.22** Dynamics of the T follicular helper response in *Borrelia burgdorferi* infection. **E. Hammond, K. Olsen, and N. Baumgarth.** Univ. of California, Davis, and Univ. of California, Davis, Sch. of Vet. Med.
- MPF.912 **52.23** Mda5/MAVS signaling is essential for resistance against *Aspergillus fumigatus*. **J. Obar, A. Caffrey, X. Wang, V. Espinosa, Y. Tang, T. Hohl, A. Rivera, and R. Cramer.** Dartmouth Geisel Sch. of Med., Univ. of Colorado Sch. of Med., Montana State Univ., Rutgers New Jersey Med. Sch. and Mem. Sloan Kettering Cancer Ctr.
- MPF.913 **52.24** Exogenous induction of type I IFN protects mice from *Cryptococcus neoformans* and *Cryptococcus gattii* infections by cellular immunity and iron restriction. **M. Davis, S. Moyer, E. Sionov, K. Mayer-Barber, D. Barber, H. Cai, P. Walter, L. Jenkins, Y. Chang, and K. Kwon-Chung.** NIAID, NIH, NIAID, NIH, Israel, NIDDK, NIH, and NCI and NIH.
- MPF.914 **52.25** The influence of gammaherpesvirus co-infection on malaria immunopathogenesis and parasite control. **P. Netongo, P. Mimche, C. Matar, S. Speck, and T. Lamb.** Univ. of Utah, The Biotechnology Ctr., Univ. of Yaounde I, Cameroon and Emory Univ. Sch. of Med.
- MPF.915 **52.26** Helminth-induced B lymphocytes mediate control of IL-17 and emphysema through their production of RELM α . **F. Chen, W. Wu, A. Millman, M. Palma, D. El-Naccache, K. Lothstein, and W. Gause.** Rutgers New Jersey Med. Sch.
- MPF.916 **52.27** Tbet+Tregs protect against lethal immunopathology during *T. gondii* infection. **E. Wohlfert, J. Warunek, and R. Jin.** Univ. at Buffalo and State Univ. of New York.
- MPF.917 **52.28** Coinfection: influenza A virus and *Aspergillus fumigatus*. **M. Rippee-Brooks and C. Lupfer.** Missouri State Univ.
- MPF.918 **52.29** Low affinity CD8+ T cells are a critical component in the development of experimental cerebral malaria. **J. Jacobs, T. King, T. Lamb, and B. Evavold.** Univ. of Utah Sch. of Med. and Univ. of Utah.

SATURDAY—POSTER SESSIONS

- MPF.919 **52.30** Human cytomegalovirus reprograms hematopoietic progenitor cells into immunosuppressive monocyte to achieve latency. **K. Zen.** Nanjing Univ., China.
- MPF.920 **52.31** Requirement of CXCL11 chemokine production for induction of protection against pulmonary cryptococcosis. **N. Castro-Lopez, A. Campuzano, C. Hole, C. L. Wager, K. Wozniak, and F. Wormley.** Univ. of Texas, San Antonio, Washington Univ. in St. Louis and Oklahoma State Univ.
- MPF.921 **52.32** Pathologic inflammation and neuronal damage during murine neurocysticercosis associates with increased expression of IL-1 β . **A. Cardona, D. Vanegas, K. Church, P. Mishra, C. Mares, and S. Cardona.** The Univ. of Texas, San Antonio.
- MPF.922 **52.33** GM-CSF regulation of autophagy in monocytes enhances immune response to *Cryptococcus gattii*. **W. Elsegeiny, A. Salas, A. Kullas, and P. Williamson.** NIAID, NIH.
- MPF.923 **52.34** WITHDRAWN.
- MPF.925 **52.36** Novel M-CSF-producing $\gamma\delta$ T cells protect against recurrent malaria. **M. Mamedov, A. Scholzen, R. Nair, K. Cumnock, J. Kenkel, J. Oliveira, D. Trujillo, N. Saligrama, Y. Zhang, F. Rubelt, D. Schneider, Y. Chien, R. Sauerwein, and M. Davis.** Stanford Univ. and Radboud Univ. Med. Ctr., Netherlands.
- MPF.926 **52.37** Investigating local and systemic immune changes following sub-chronic inhalation of *Aspergillus versicolor* spores. **M. Barnes, T. Croston, A. Lemons, D. Beezhold, and B. Green.** Ctr. for Dis. Control and Prevention Natl. Inst. for Occup. Safety and Hlth.
- MPF.927 **52.38** The transcription factor Bhlhe40 is a novel regulator of large peritoneal macrophages and type 2 immunity. **N. Jarjour, T. Bradstreet, E. Schwarzkopf, C. Lin, M. Cook, S. Huang, R. Taneja, G. Randolph, J. Urban, and B. Edelson.** Washington Univ. in St. Louis, Massachusetts Gen. Hosp., Natl. Univ. of Singapore, Singapore and USDA.
- MPF.928 **52.39** Malnutrition Decreases both Effector and Memory CD4 T cells in Malaria Infection. **J. Pilotos, M. Smith, C. Johnson, L. Campbell, S. Ibitokou, R. Stephens, and M. Opata.** Appalachian State Univ. and Univ. of Texas Med. Br.
- MPF.929 **52.40** A_{2B} Adenosine Receptor Signaling on Epithelial Cells Promotes Type 2 Immunity Against Helminths. **D. El-Naccache, F. Chen, M. Palma, W. Wu, B. Csoka, G. Hasko, and W. Gause.** Rutgers Med. Sch.
- MPF.930 **52.41** Trophocytosis: a novel mechanism neutrophils use to kill a large, motile extracellular parasite. **F. Mercer, S.H. Ng, T. Brown, G. Boatman, and P. Johnson.** Univ. of California, Los Angeles and Pomona Col.
- MPF.931 **52.42** Immune responses of channel catfish against parasite *Ichthyophthirius multifiliis* following theront vaccination. **D. Xu, Q. Zhang, C. Shoemaker, D. Zhang, and G. Moreira.** USDA, Jinan Univ., China and Univ. of Sao Paulo, Brazil.
- 53. MUCOSAL IMMUNE REGULATION BY MICROBIOTA AND DIET**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- MUC.932 **53.1** Immune-microbiome axis regulates liver inflammation. **P. Castillo, P. Kumar, T. Hand, and J. Kolls.** Children's Hosp. of Pittsburgh, Univ. of Pittsburgh Sch. of Med., Stony Brook Univ. and Tulane Univ. Sch. of Med.
- MUC.933 **53.2** Dietary dampening of epithelial MHC-II expression enhances intestinal tumorigenicity. **S. Beyaz.** Cold Spring Harbor Lab.
- MUC.934 **53.3** The delivery of luminal substances across small intestinal epithelium via goblet cell associated antigen passages is increased in the presence of dietary gliadin. **K. McDonald, K. Knoop, D. Kulkarni, J. Gustafsson, M. Miller, and R. Newberry.** Washington Univ. Sch. of Med. in St. Louis.
- MUC.935 **53.4** Food allergy is associated with altered epithelial gene expression driven by early life dysbiosis. **C. Plunkett, T. Feehley, R. Bao, P. Belda-Ferre, S.M.C. Hong, E. Campbell, R. Aitoro, R. Nocerino, L. Paparo, D. Antonopoulos, J. Andrade, R.B. Canani, and C. Nagler.** Univ. of Chicago, Univ. of Naples Federico II, Italy and Argonne Natl. Lab.
- MUC.936 **53.5** Exposure to microbial antigens during early life is required for the establishment of tolerance to commensal bacteria. **K. Knoop, J. Gustafsson, K. McDonald, C. Hsieh, S. Hogan, C. Elson, P. Tarr, and R. Newberry.** Washington Univ. Sch. of Med. in St. Louis, Cincinnati Children's Hosp. Med. Ctr. and Univ. of Alabama, Birmingham.
- MUC.937 **53.6** Commensal gut fungi regulate susceptibility to colitis and colorectal cancer. **A. Malik, D. Sharma, P. Vogel, and T. Kanneganti.** St Jude Children's Res. Hosp.
- MUC.938 **53.7** Moving beyond microbiome-wide associations to causal microbe identification. **N. Surana and D. Kasper.** Boston Children's Hosp. and Harvard Med. Sch.
- MUC.939 **53.8** Critical role for the microbiota in limiting inflammatory intestinal T cell responses. **M. Kim, C. Galan, A. McAlester, W. Wu, H. W. Song, D. Littman, and G. Diehl.** Baylor Col. of Med. and New York Univ. Sch. of Med.
- MUC.940 **53.9** IL-4 signaling regulates the IL-9 producing mast cells (MMC9) gene expression and function in food-induced anaphylaxis in mice. **S. Tomar, V. Ganesan, C. Zeng, L. Waggoner, A. Smith, D. Shik, Y. Wang, and S. Hogan.** Cincinnati Children's Hosp. Med. Ctr.
- MUC.941 **53.10** Acute high fat diet disrupts intestinal barrier repair. **A. McAlester, M. Kim, R. Song, W. Wu, and G. Diehl.** Baylor Col. of Med.
- MUC.942 **53.11** AhR stimulation reverses antibiotic-induced defense impairment through NF- κ B activation of the intestinal mucosa. **L. Chen.** Kaohsiung Veterans Gen. Hosp., Taiwan.

- MUC.943 **53.12** Epithelial TSC1-mTOR controls RIPK3-dependent necroptosis and susceptibility to IBD by sensing dietary and microbial metabolites. **H. Xiao.** Institut Pasteur of Shanghai, China.
- MUC.944 **53.13** CSN8 Promotes Intestinal Tumorigenesis. **Z. Deng, Y. Rong, J. Mu, V. Jala, M. Tseng, Y. Teng, A. Kumar, and H. Zhang.** Univ. of Louisville.
- MUC.945 **53.14** Indole-3-carbinol ameliorates murine colitis symptoms by regulating the release of colonic antimicrobial peptides which prevents disease-associated microbial dysbiosis. **P. Busbee, L. Menzel, M. Nagarkatti, and P. Nagarkatti.** Univ. of South Carolina Sch. of Med.
- MUC.946 **53.15** Cholera toxin requires microbiota metabolites short-chain fatty acids for its mucosal adjuvant activity. **W. Yang, Y. Xiao, X. Huang, F. Chen, L. Chen, A. Bilotta, L. Xu, S. Yao, and Y. Cong.** Univ. of Texas Med. Br., Galveston.
- MUC.947 **53.16** Microbiota metabolites short-chain fatty acid butyrate conditions intestinal epithelial cells to promote development of Treg cells and T cell IL-10 production. **L. Xu, C. Ma, X. Huang, W. Yang, L. Chen, A. Bilotta, S. Yao, and Y. Cong.** Univ. of Texas Med. Br., Galveston.
- MUC.948 **53.17** Microbiota metabolites SCFA promote intestinal epithelial repair and wound healing through promoting epithelial cell production of milk fat globule-EGF factor 8. **A. Bilotta, C. Ma, X. Huang, W. Yang, L. Chen, S. Yao, and Y. Cong.** Univ. of Texas Med. Br., Galveston.
- MUC.949 **53.18** Microbiota metabolites derived from tryptophan modulate macrophage inflammation and migration through AMP-activated protein kinase. **Y. Ding, S. Krishnan, R. Alaniz, K. Lee, and A. Jayaraman.** Texas A&M Univ., Tufts Univ., and Texas A&M Hlth. Sci. Ctr.
- MUC.950 **53.19** Interactions between microbiota and the teleost immune system in health and disease. **I. Salinas, E. Casadei, F. Takizawa, Y. Shibusaki, and O. Sunyer.** Univ. of New Mexico and Univ. of Pennsylvania.
- 54. AUTOIMMUNE THERAPEUTICS: MICROBIOME, DIET, AND METABOLISM**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- Ther.952 **54.1** Prevention of systemic autoimmunity by dietary modulation of the gut microbiota. **D.Z. Ruiz, A. El-Beidaq, A. Iniguez, M.L. di Ricco, D. Mubiro, S. Vieira, W. Ruff, J. Sterpka, and M. Kriegel.** Yale Sch. of Med., Yale Univ., Univ. of California, Los Angeles and Centre d'Immunologie et des Maladies Infectieuses, France.
- Ther.953 **54.2** Human gut commensal *Prevotella histicola* ameliorates disease as efficiently as Copaxone and Interferon- β in a preclinical animal model of multiple sclerosis. **S. Shahi, S. Freedman, K. Gibson-Corley, N. Karandikar, J. Murray, and A. Mangalam.** Univ. of Iowa.
- Ther.954 **54.3** Isoprenol-Induced Neuroprotection in Experimental Multiple Sclerosis. **J. Ochoa-Reparaz, K. Strawn, T. Kirby, M. Brown, D. Walters, K. Gibson, and J. Rouillet.** Eastern Washington Univ. and Washington State Univ.
- Ther.955 **54.4** Fumaric acid esters hypermethylate the miR21 locus and prevent the formation of CCR6+ CD4 T cells in multiple sclerosis. **A. Ntranos, V. Ntranos, V. Bonnefil, J. Liu, Y. Zhu, C. Watson, I. Katz-Sand, and P. Casaccia.** Icahn Sch. of Med., Mount Sinai, Univ. of California, Berkeley, ASRC and Univ. of Louisville.
- Ther.956 **54.5** The Effect of Helminth-Induced Immunomodulatory Therapy (HINT) in Relapsing Remitting Multiple Sclerosis. **G. Hernandez, C. Ganansky, M. Sandor, J. Fleming, and Z. Fabry.** Univ. of Wisconsin, Madison.
- Ther.957 **54.6** D-Mannose suppresses inflammatory diseases by induction of regulatory T cells. **D. Zhang, P. Zanvit, J. Xu, W. Jin, and W. Chen.** NIDCR, NIH.
- Ther.958 **54.7** Oral Therapy with Colonization Factor Antigen I (CFA/I) Activates Stable Regulatory T Cells (Tregs) in the Pancreatic Lymph Nodes (PaLNs) of Non-Obese Diabetic (NOD) Mice. **A. Nelson, M. Maddaloni, C. Hoffman, J. Abbott, and D. Pascual.** Univ. of Florida.
- Ther.959 **54.8** Dietary Early Glycation Products Protect Type 1 Diabetic Mice against Hyperglycemia through Altering Immune Homeostasis. **Y. Chen and T. Guo.** Univ. of Georgia.
- Ther.960 **54.9** Molecular selection and initial characterization of a new inducer and a new destabilizer of non-bilayer phospholipid arrangements. **S.S. Barbosa, C. Landa-Saldivar, I. Nevarez-Lechuga, C. Wong, C. Wong-Baeza, and I. Baeza.** ENCB-IPN, Mexico.
- Ther.961 **54.10** Protective effect of IFN- γ during experimental autoimmune encephalomyelitis is associated with the induction of inducible nitric oxide synthase. **A. Dietz, R. Robinson, and T. Forsthuber.** The Univ. of Texas, San Antonio.
- Ther.962 **54.11** HDAC10 Targeting Regulates Foxp3 Promoter, Enhances T-regulatory (Treg) Function and Suppresses Autoimmune Colitis. **S. Dahiya, L. Wang, U. Beier, R. Han, and W. Hancock.** Children's Hosp. of Philadelphia and Univ. of Pennsylvania.
- Ther.963 **54.12** Epigallocatechin-3-gallate (EGCG) ameliorates dextran sulfate sodium (DSS)-induced inflammatory bowel disease. **B. Payan, K. Vanarsa, H. Ding, S. Soomro, S. Baig, Y. Du, J. Hicks, and C. Mohan.** Univ. of Houston, and Texas Children Hosp.
- Ther.964 **54.13** VEN- α , an engineered mammalian milk protein, demonstrates potent proinflammatory cytokine neutralization implicated in Inflammatory Bowel Disease. **R. Alfano, A. Simon, V. Akoyev, and S. Fein.** Ventria Bioscience.
- Ther.965 **54.14** Engineered immunomodulatory protein tyrosine phosphatase ameliorates inflammatory skin diseases. **W. Kim, J. Koo, H. Cho, J. Lee, J.Y. Kim, S. Lee, H. Lee, J.H. Kim, M.S. Oh, M. Suh, E. Shin, J. Y. Ko, M.H. Sohn, and J-M Choi.** Hanyang Univ., South Korea, Sungkyunkwan Univ., South Korea, Korea Advanced Inst. of Sci. and Technol., South Korea and Yonsei Univ. Col. of Med., South Korea.

SATURDAY—POSTER SESSIONS

Ther.966 **54.15** Anti-inflammatory activity of the piperazino-enaminone JODI-19 in vitro and in vivo. **D. Szollosi, J. Sun, O. Ghoneim, A. Bill, and I. Edafiohgo.** Univ. of St. Joseph and Univ. of North Carolina Chapel Hill.

55. TRANSPLANTATION IMMUNOLOGY

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

TRAN.968 **55.1** Delineating tissue-specific alloimmunity during acute GVHD. **V. Tkachev, S. Furlan, E. Potter, B. Zheng, D. Hunt, L. Colonna, A. Taraseviciute, J. Carlson, K. Betz, A. Yu, M. Hoffman, S. Herrin, J. Olvera, C. Littlewood, B. Blazar, M. Roederer, and L. Kean.** Seattle Children's Res. Inst., NIAID, NIH, Univ. of Minnesota, Fred Hutchinson Cancer Res. Ctr. and Univ. of Washington.

TRAN.969 **55.2** Distinct IL-6 signaling pathways drive alternate pathogenic T cell differentiation and GVHD after transplant in vivo. **A. Wilkinson, R. Kuns, A. Varelias, S. Vuckovic, S. Rose-John, K. Gartlan, and G. Hill.** QIMR Berghofer Med. Res. Inst., Australia and Christian Albrechts Univ. Kiel, Germany.

TRAN.970 **55.3** Obesity results in marked increases in gut permeability, inflammatory cytokines, and acute gut graft-versus-host disease after allogeneic hematopoietic stem cell transplantation. **L. Khuat, C. Pai, C. Le, C. Dunai, M. Chen, H. Raybould, M. Abedi, and W. Murphy.** Univ. of California, Davis and Univ. of Texas Southwestern Med. Ctr.

TRAN.971 **55.4** Recipient conditioning contributes to IL-33-driven Th1 alloimmune responses following rapid ST2 upregulation on donor CD4⁺ T cells during lymphopenia-induced proliferation. **G. Dwyer, L. Mathews, A. Lucas, B. Blazar, and H. Turnquist.** Univ. of Pittsburgh Sch. of Med. and Univ. of Minnesota Med. Sch.

TRAN.972 **55.5** Graft dendritic cell p40 homodimers activate donor-reactive endogenous memory CD8 T cells within higher risk allografts. **R. Fairchild, H. Tsuda, and P. Yang.** Cleveland Clin.

TRAN.973 **55.6** Towards the repair of marginal liver grafts: mesenchymal stromal cell therapy. **A. Bartczak, I. Linares, D. Kollmann, X. Zhang, X. Ma, J. Echeverri, S. Ganesh, J. Manuel, M. Selzner, A. Keating, and I. McGilvray.** Univ. Hlth. Network, Canada.

TRAN.974 **55.7** Bioengineering localized and controlled drug delivery to actuate Enhanced Costimulation Blockade and promote long-term transplant survival. **G. Raimondi, P. Majumder, V. Ivanova, X. Calderon-Colon, A. Mirdad, M.I. Lozano, W. A. Lee, G. Brandacher, J. Schneider, and J. Patrone.** Johns Hopkins Univ. Sch. of Med., NCI, NIH and Johns Hopkins Univ. App. Phys. Lab.

TRAN.975 **55.8** The adapter protein TSA_d maintains alloimmune T regulatory cell stability and function. **J. Wedel, M. Stack, T. Seto, M. Sheehan, K. Liu, E. Flynn, and D. Briscoe.** Boston Children's Hosp. and Harvard Med. Sch.

TRAN.976 **55.9** Alloreactive T cells develop in the very early period following human stem cell transplantation and are characterised by a range of novel features. **P. Moss, K. Verma, J. Zuo, and R. Malladi.** Univ. of Birmingham, United Kingdom and Univ. Hosp. Birmingham, United Kingdom.

TRAN.977 **55.10** Human alloreactive-regulatory T cell profile after ex vivo expansion using CD40L-stimulated B cells or monocyte-derived dendritic cells. **L. Lee, H. Zhang, H. Liang, K. Lee, A. Thomson, and Q. Tang.** Univ. of California, San Francisco and Univ. of Pittsburgh.

TRAN.978 **55.11** Host-derived CD27 suppresses graft versus host disease by limiting donor T cell expansion in a caspase dependent mechanism. **R. O'Neill, N. Leigh, W. Du, G. Chen, P. McCarthy, and X. Cao.** Univ. of Maryland, Baltimore and Roswell Park Cancer Inst.

TRAN.979 **55.12** Prolonged cold ischemia storage of renal allografts shifts DSA specificity and enhances glomerular injury. **V. Gorbacheva, R. Fan, W. Baldwin, and A. Valujskikh.** CCF.

TRAN.980 **55.13** Vasoactive intestinal peptide synthesis in transplant recipients regulate donor T cell alloreactivity and graft-versus-host disease. **Y. Li and E. Waller.** Emory Univ. and Emory Univ. Sch. of Med.

TRAN.981 **55.14** Eosinophils alleviate lung allograft rejection through their modulation of CD8⁺ T Cells. **O. Onyema, Y. Guo, Q. Wang, A. Gelman, D. Kreisel, E. Jacobsen, and A. Krupnick.** Univ. of Virginia Sch. of Med., Washington Univ. Sch. of Med. in St. Louis and Mayo Clin., Arizona.

TRAN.982 **55.15** Recipient mucosal-associated invariant T cells control graft-versus-host-disease within the colon. **A. Varelias, M. Bunting, K. Ormerod, M. Koyama, S. Olver, J. Straube, R. Kuns, R. Robb, A. Henden, L. Cooper, N. Lachner, K. Gartlan, O. Lantz, L. Kjer-Nielsen, J. Mak, D. Fairlie, J. McCluskey, J. Rossjohn, S. Lane, P. Hugenholz, and G. Hill.** QIMR Berghofer Med. Res. Inst., Australia, Australian Ctr. for Ecogenomics, The Univ. of Queensland, Australia, The Royal Brisbane and Women's Hosp., Australia, Institut Curie, France, The Univ. of Melbourne, Australia, Inst. for Molec. Biosci., The Univ. of Queensland, Australia, Envoi Pathology, Australia and Monash Univ., Australia.

TRAN.983 **55.16** Type-1 interferon impairs the immunoregulatory activity of IL-10: understanding the mechanisms of abrogation of transplant tolerance. **M.I. Lozano, A. Arun, M. Chicco, B. Lam, V. Ivanova, W.A. Lee, G. Brandacher, and G. Raimondi.** Johns Hopkins Univ. Sch. of Med.

TRAN.984 **55.17** Bendamustine Conditioning Induces Phenotypic and Functional Changes in Host Antigen-Presenting Cells Which May Confer Protection Against GvHD. **M. Molina, J. Stokes, E. Hoffman, J. Eremija, Y. Zeng, and E. Katsanis.** Univ. of Arizona Col. of Med.

- TRAN.985 **55.18** Soluble interleukin-27 receptor alpha is a valuable predictive biomarker for acute graft-versus-host disease after allogeneic hematopoietic stem cell transplantation. **S. Ma, S. Liu, H. Gong, and D. Wu.** Soochow Univ., China.
- TRAN.986 **55.19** Syngeneic stem cell transplantation generates antigen-specific T cells that maintain myeloma-immune equilibrium. **S. Minnie, S. Vuckovic, D. Smith, K. Gartlan, T. Watkins, R. Kuns, C. Guillerey, M. Chesi, K. Markey, J. Miles, M. Smyth, and G. Hill.** QIMR Berghofer Med. Res. Inst., Australia, The Univ. of Queensland, Australia, Ctr. for Biodiscovery and Molec. Develop. of Therapeutics, AIHMH, James Cook Univ., Australia, Comprehensive Cancer Ctr., Mayo Clin. and The Royal Brisbane and Women's Hosp., Australia.
- TRAN.987 **55.20** BMT procedure alters the functions of dendritic cells and subsequently causes pathogenic Th responses to gammaherpesvirus infection. **X. Zhou, M. Chadwick, P. Chan, C. Wilke, A. Podsiad, G. Yanik, and B. Moore.** Univ. of Michigan.
- TRAN.988 **55.21** Clonal dynamics of adoptively transferred multi-virus specific T cells (MVST) in hematopoietic stem cell transplant patients. **S. Davies, Q. Yu, M. Battiwalla, F. Chinian, G. Whitehill, S. Wong, E. Koklanaris, S. Hauffe, D. Stroncek, J. Superata, J. Barrett, and P. Muranski.** NHLBI, NIH, Drexel Univ. Col. of Med., DTM, NIH and Columbia Univ. Med. Ctr.
- TRAN.989 **55.22** Bilirubin Nanoparticle as an anti-inflammatory therapy for graft versus host disease. **S. Pareek, M. Zhang, A. Trujillo-Ocampo, J. Kim, S. Jon, and J. Im.** Univ. of Texas, Houston, MD Anderson Cancer Ctr. and KAIST, South Korea.
- TRAN.990 **55.23** NOD2 acts as a master regulator of regeneration pathways in the thymus. **S. Kinsella, K. Cooper, P. deRoos, L. Iovino, R. Jain, and J. Dudakov.** Fred Hutchinson Cancer Res. Ctr.
- TRAN.991 **55.24** WITHDRAWN.
- TRAN.992 **55.25** Depletion of macrophages from Cytomegalovirus (CMV) latently infected donor allografts decreases CMV mediated immunopathology and prevents CMV-accelerated chronic rejection. **N. Haese, J. Burg, T. Ando, I. Jones, C. Kreklywich, S. Orloff, and D. Streblow.** Oregon Hlth. and Sci. Univ.
- TRAN.993 **55.26** Donor-specific antibody mediates chronic, but not acute, kidney allograft rejection in the absence of natural killer cells. **D. Kish, T. Yagisawa, N. Dvorina, A. Valujskikh, W. Baldwin, and R. Fairchild.** Cleveland Clin.
- TRAN.994 **55.27** Immunosuppression reverse engineered from cancer: reducing nicotinamide adenine dinucleotide (NAD) impairs effector T cell function through glycolysis. **U. Beier, W. Quinn, J. Jiao, T. TeSlaa, S. Dahiya, Z. Wang, M. Levine, W. Hancock, J. Rabinowitz, and J. Baur.** Children's Hosp. of Philadelphia, Univ. of Pennsylvania and Univ. of Princeton.
- TRAN.995 **55.28** Tannic acid-encapsulated islets delay immune rejection following transplantation. **J. Barra, V. Kozlovskaya, E. Kharlampieva, and H. Tse.** Univ. of Alabama, Birmingham
- TRAN.1000 **55.29** Role of exosomes in rejection following human lung transplantation—an in vitro analysis using human airway epithelial cells. **R. Ravichandran, M. Gunasekaran, S. Bansal, and T. Mohanakumar.** St. Joseph's Hosp. and Med. Ctr.
- TRAN.1001 **55.30** Identification of extracellular vesicle proteins in circulating exosomes from human lung transplant recipients. **S. Bansal, P. Pirrotte, M. McGilvrey, K. Garcia-Mansfield, M. Sharma, M. Gunasekaran, M. Smith, R. Bremner, and T. Mohanakumar.** St. Joseph's Hosp. and Med. Ctr. and Collaborative Ctr. for Translational Mass Spectrometry.
- TRAN.1002 **55.31** The enigmatic impact of donor T cell subsets on the therapeutic efficacy of tolerogenic protocols for transplant rejection. **M.I. Lozano, M. Chicco, W.P.A. Lee, G. Brandacher, and G. Raimondi.** Johns Hopkins Univ. Sch. of Med.
- TRAN.1003 **55.32** Allograft transplantation provokes miRNA 297-669 cluster that reduces T regulatory cell generation through targeting TGF- β 2. **W. Becker, P. Nagarkatti, and J. Bannink.** Univ. of South Carolina Sch. of Med.
- TRAN.1004 **55.33** Aquaporin 4 blockade alters T cell trafficking through a novel mechanism of S1PR1 regulation. **M. Nicosia, R. Fan, S. Miyairi, G. Farr, P. McGuirk, M. Pelletier, A. Beavers, and A. Valujskikh.** Cleveland Clin. and Aeromics, Inc.
- TRAN.1005 **55.34** Lack of B10 and MZ-like B cells in liver-transplant patients with PCH. **M.M. Hasan, L. Thompson-Snipes, G. Klintmalm, S. Oh, and H. Joo.** Baylor Univ., Naylor Inst. for Immunology Res., Baylor Scott and White Res. Inst. and Anette C. and Harold C. Simmons Transplant Inst.
- TRAN.1006 **55.35** Antigens Associated with Non-HLA Cardiac Transplant Rejection. **K. Gates and L. Griffiths.** Mayo Clin.
- TRAN.1007 **55.36** SA-FasL-engineered PEG microgels as a novel means of modulating immune response to allogeneic islet grafts. **H. Shirwan, K. Woodward, D. Headen, H. Zhao, P. Shrestha, M. Tan, W. Bowen, M. Coronel, M. Hunckler, J. Weaver, E. Yolcu, and A. García.** Univ. of Louisville and Georgia Inst. of Technol.
- TRAN.1008 **55.37** Urine levels of CCL2 and CXCL10 chemokines as potential biomarkers of kidney allograft function: a pilot study. **M. Czerwinska, M. Gniewkiewicz, J. Gozdowska, K. Czerwinska, A. Sadowska, A. Perkowska-Pfasinska, M. Kosieradzki, and M. Durlik.** Med. Univ. of Warsaw, Poland.
- TRAN.1009 **55.38** Display of CD47 protein on pancreatic islet grafts improves engraftment following intraportal transplantation. **P. Shrestha, W. Bowen, L. Batra, M. Tan, E. Yolcu, and H. Shirwan.** Univ. of Louisville.

SATURDAY—POSTER SESSIONS

- TRAN.1010 **55.39** Novel Consistently *Ex-vivo* Expanded CD8⁺CD25⁺FoxP3⁺Treg Cells Prolongs the Allogeneic Islet Survival. **J. Kim, K. Han, and C. Park.** Xenotransplantation Res. Ctr., South Korea and Inst. of Endemic Dis. in Med. Res. Ctr., South Korea.
- TRAN.1011 **55.40** *In vitro* characteristics and *in vivo* outcome of α 1,3-galactosyltransferase gene-knockout miniature pig cornea in full-thickness corneal xenotransplantation using nonhuman primate. **C.H. Yoon, S.H. Choi, H.J. Lee, H.P. Kim, H.J. Kang, J.M. Kim, H.J. Choi, C. Park, K. Choi, H. Kim, C. Ahn, and M.K. Kim.** Seoul Natl. Univ. Hosp., South Korea, Seoul Artificial Eye Ctr., Seoul Natl. Univ. Hosp. Biomed. Res. Inst., South Korea, Translational Xenotransplantation Res. Ctr., Seoul Natl. Univ. Col. of Med., South Korea, Hallym Univ. Col. of Med., South Korea, Optipharm, Inc., South Korea, and Seoul Natl. Univ. Col. of Med., South Korea.
- TRAN.1012 **55.41** WITHDRAWN.
- TRAN.1013 **55.42** Tc17 cells mediate gut GVHD via IL-22 and dysbiosis. **Q. Song, X. Wu, D. Zeng, R.R. Jenq, M.R.M. Van den Brink, A.D. Riggs, Y. Chen, and D. Zeng.** Fujian Inst. of Hematology, Fujian Med. Univ., China, Beckman Res. Inst., City of Hope, MD Anderson Cancer Ctr., Memorial Sloan Kettering Cancer Ctr. and Irell and Manella Grad. Sch. of Biological Sci.
- TRAN.1014 **55.43** KD025, a Selective ROCK2 Inhibitor, Down-Regulates Pro-Inflammatory TFH, TH17 and B cell Subsets while Increasing Regulatory T cells in Steroid-Dependent cGVHD Patients. **J. Weiss, J. Zhang, W. Chen, M. Nyuydze, B.M. Gillivray, J. Ryan, B. Blazar, S. Waksal, and A. Zanin-Zhorov.** Kadmon Corp., Univ. of Minnesota and Weill Cornell Med.
- TRAN.1015 **55.44** Tolerogenic synthetic nanoparticles for the prevention of murine acute graft-versus-host disease. **D. Ferrari, R. LaMothe, P. Kolte, A. Griset, C. O'Neil, T. Leland, F. Fu, N. Viseux, L. Johnston, T. Kishimoto, and R. Maldonado.** Selecta Biosciences.
- TRAN.1016 **55.45** CD45 ligation reduces Tregs' motility and enhances recognition of activating signals *in vitro*. **J. Lee, J. Lee, D. Rothstein, and L. Kam.** Columbia Univ. and Univ. of Pittsburgh Sch. of Med.
- TRAN.1017 **55.46** Development of a murine intestinal explant model to examine immune mechanisms of graft versus host disease. **C. Gao, S. Hitchcock, H. Deutsch, T. Rao, C. Amuzie, and R. Malaviya.** Janssen Pharmaceutical Companies of Johnson & Johnson.
- TUM.1019 **56.2** The coupling of MDSCs with a computational neural network (NN) to detect solid tumors. **G. Dominguez, K. Maslar, C. Sholevar, A. Polo, J. Roop, A. Campisi, D. Gabrilovich, F. Rauscher, and A. Kumar.** ITUS Corp. and Wistar Inst.
- TUM.1020 **56.3** Irutinib has a novel immunomodulatory effect by enhancing DC maturation both *in vivo* and in a model of inflammation. **N. Saljoughian, S. Varikuti, G. Halsey, S. Oghumu, and A. Satoskar.** Ohio State Univ. Col. of Med.
- TUM.1021 **56.4** Antibody-dependent cellular phagocytosis is responsible for efficacy of anti-CD20 monoclonal antibody therapy in chronic lymphocytic leukemia. **C. Chu, K. VanDerMeid, M. Elliott, A. Baran, P. Barr, and C. Zent.** Univ. of Rochester Med. Ctr.
- TUM.1022 **56.5** Inhaled IL-10 Suppresses Lung Tumorigenesis via Abrogation of the Inflammatory Macrophage - T17-cell Axis. **Q. Li and N. Egilmez.** Univ. of Louisville.
- TUM.1023 **56.6** Tumor-associated myeloid cells support T-ALL survival and proliferation through close contact. **A. Lyu, T. Triplett, W. Godfrey, and L. Ehrlich.** Univ. of Texas, Austin.
- TUM.1024 **56.7** Soy-enriched diet limits tumor progression and reduces myeloid derived suppressor cells in the murine TRAMP model of prostate cancer. **T. Mace, S. Loftus, S. King, G. Young, C. Geraghy, M. Fareen, B. Ware, B. Olson, J. Thomas-Ahner, S. Clinton, and G. Lesinski.** Ohio State Univ. and Emory Univ.
- TUM.1025 **56.8** PD-L1 expression of monocytes may be used a new marker of the classification for the cancer progression in hepatocellular carcinoma. **A. Asai, H. Yasuoka, Y. Tsuchimoto, H. Ohama, S. Fukunishi, Y. Tsuda, M. Kobayashi, K. Higuchi, and F. Suzuki.** Osaka Med. Col., Japan, and Univ. of Texas Med. Br., Galveston.
- TUM.1026 **56.9** The DNA methyltransferase inhibitor, Guadecitabine, shifts myeloid derived suppressor cell phenotype from immune-suppressive toward immune-stimulatory. **A. Luker, L. Graham, C. Tolete, D. Conrad, and H. Bear.** Massey Cancer Ctr.
- TUM.1027 **56.10** Voluntary physical exercise decreases MDSC (myeloid derived suppressor cell) populations in the spleen and circulation in a rat model of mammary adenocarcinoma. **A. Hirsch, C. Brenner, A. Costa, J. Haughian, N. Pullen, and R. Hayward.** Univ. of Northern Colorado and Univ. of Northern Colorado Cancer Rehabil. Ctr.
- TUM.1028 **56.11** WITHDRAWN.
- TUM.1029 **56.12** Targeting Chemokine Receptors to Modulate MDSCs for Cancer Therapy. **P. Mittal, C. Leach, J. Clemente, M. Sender, W. Hancock, and B. Turunen.** Children's Hosp. of Philadelphia and GalaxoSmithKline.
- TUM.1030 **56.13** HMGN1 and R848 synergistically activate DCs by multiple signaling pathways. **M. Alam, D. Yang, A. Trivett, and J. Oppenheim.** NCI, NIH.
- TUM.1031 **56.14** TFEB regulates tumor-associated macrophages in breast cancer through autophagy-dependent and independent pathways. **D. Fan, J. Hodge, and L. Fang.** Univ. of South Carolina Sch. of Med.
- 56. MACROPHAGES AND MYELOID AND DENDRITIC CELLS IN TUMOR IMMUNITY AND IMMUNOTHERAPY**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- TUM.1018 **56.1** Activation of host p53 enhances anti-tumor immunity by driving differentiation of immunogenic myeloid DCs in tumors, while simultaneously protecting against collateral autoimmunity against shared self-tumor antigens. **M. Sharma.** Georgia Cancer Ctr. and Augusta Univ.

- TUM.1032 **56.15** The impact of androgens on neutrophils and melanoma tumor burden. **J. Markman, D. Wakita, T. Crother, and M. Arditi.** Cedars-Sinai Med. Ctr. and Hokkaido Univ., Japan.
- TUM.1033 **56.16** A novel function of platelets and CD40L in NAFLD-promoted HCC development. **Q. Fu, C. Ma, B. Heinrich, Z. Brown, Q. Zhang, B. Elzey, T. Ratliff, and T. Greten.** NCI, NIH, Purdue Univ. and Indiana Univ.
- TUM.1034 **56.17** *In situ* vaccination improves efficacy of PD-1 blockade in unresponsive lymphoma tumors through induction of a highly efficient cross-presenting dendritic cell subset expressing TLR3. **L. Hammerich, M. Dhainaut, T. Keler, T. Davis, A. Salazar, B. Brown, and J. Brody.** Icahn Sch. of Med., Mount Sinai, Celldex Therapeut. and Oncovir, Inc.
- TUM.1035 **56.18** Systemic dysregulation of antigen cross-presenting dendritic cells occurs early in preinvasive pancreatic neoplasia and is reversed by CD40 agonism. **J. Lin and R. Vonderheide.** Perelman Sch. of Med., Univ. of Pennsylvania.
- TUM.1036 **56.19** TIPE2, an inflammation transfer switch, regulates the on-and-off immunosuppressive function of MDSCs in tumors. **D. Yan, J. Wang, A.O. Adeshakin, M. Xu, Y.H. Chen, and X. Wan.** Shenzhen Inst. of Advanced Technol., Chinese Acad. of Sci., China, Sch. of Life Sci. and Technol., Jinan Univ., China, Perelman Sch. of Med., Univ. of Pennsylvania, Inst. of Biomedicine and Biotechnology, Henzhen Inst. of Advanced Technol. and Chinese Acad. of Sci., China.
- TUM.1037 **56.20** Disruption of Mammalian Target of Rapamycin Complex 1 in Myeloid cells Promotes Lung Cancer Metastasis. **C. Ding and J. Yan.** Univ. of Louisville.
- TUM.1038 **56.21** CD103 expression by DCs: a new player in lung cancer immunity. **J. Brassard, E. Bernatchez, A. Langlois, and M. Blanchet.** CRIUCPQ, Canada.
- TUM.1039 **56.22** Development of melittin-based anti-cancer drug for targeting tumor-associated macrophages. **C. Lee, H. Jeong, and H. Bae.** Kyung Hee Univ., South Korea.
- TUM.1040 **56.23** Cell death-inducing reagents activate cancer immune surveillance via inducing Interleukin-17D in macrophages. **R. Seelige and J. Bui.** Univ. of California, San Diego.
- TUM.1041 **56.24** Cell-cell fusion as a mechanism of DNA exchange in cancer. **S. Searles, E. Santosa, and I. Nevarez-Lechuga.** Univ. of California, San Diego.
- TUM.1042 **56.25** Relevance of host and tumor PD-L1 in PD-L1 pathway blockade. **I. Kryczek, H. Lin, S. Wei, M. Green, and W. Zou.** Univ. of Michigan Med. Sch.
- TUM.1043 **56.26** MyD88-stimulated T cells acquire resistance to MDSC-mediated suppression. **N. Ciavattone, D. Parker, A.M. Joseph, and E. Davila.** Univ. of Maryland Baltimore, Greenebaum Comprehensive Cancer Ctr. and Weill Cornell Med.
- TUM.1044 **56.27** Profiling the effects of carbonic anhydrase 9/12 inhibition on tumor associated macrophage/microglia polarization in glioma. **N. Boyd, B. McFarland, P. McDonald, S. Dedhar, and A. Hjelmeland.** Univ. of Alabama, Birmingham and BC Cancer Res. Ctr., Canada.
- 57. T CELLS IN TUMOR IMMUNITY AND IMMUNOTHERAPY**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- TUM.1045 **57.1** Tumor cell-intrinsic MHC class II expression as a determinant of immunotherapy responsiveness in an orthotopic mouse model of non-small cell lung cancer. **E. Clambey, A. Johnson, A. Neuwelt, A. Kimball, R. Kaspar, B. Bullock, J. Kwak, J. Poczobutt, H. Li, and R. Nemenoff.** Univ. of Colorado Sch. of Med.
- TUM.1046 **57.2** Bortezomib impacts Notch—miR-155 mediated augmentation of CD8⁺ T Cell antitumor immunity. **A. Renrick, M. Thounaojam, P. Thomas, and A. Shanker.** Meharry Med. Col., Med. Col. of Georgia and Meharry Med. Col. Sch. of Med.
- TUM.1047 **57.3** Blockade of CD25 reduces regulatory T cell expansion and some manifestations of IL-2 mediated toxicity but does not improve anti-tumor efficacy in animal models of IL-2 immunotherapy. **F. Harding, H. Alvarez-Jares, N. Belmar, D. Choi, C. Forsyth, M. Fox, J. Sheridan, M. Stickler, A. Tang, and D. Hollenbaugh.** AbbVie Biotherapeutics.
- TUM.1200 **57.4** IL-33 inhibits tumor growth through the activation of anti-tumor CD8⁺ T cell response in hepatocellular carcinoma. **Z. Jin and H. Liu.** Soochow Univ., China and Nat. Univ. of Singapore, Singapore.
- TUM.1201 **57.5** NKILA LncRNA Promotes Tumor Immune Evasion by Sensitizing Tumor-Specific CTLs to Activation-Induced Cell Death. **D. Huang, E. Song, S. Su, J. Chen, J. Liu, and F. Chen.** Sun Yat-sen Univ., China.
- TUM.1202 **57.6** IL-21 selectively protects CD62L⁺ NKTs from activation-induced cell death during ex vivo expansion and enhances antitumor activity of NKT cell therapy in vivo. **H. Ngai, G. Tian, A. Courtney, E. Marinova, W. Huang, L. Guo, B. Liu, and L. Metelitsa.** Baylor Col. of Med.
- TUM.1203 **57.7** CD57⁺ T cells phenotype and function in non-small cell lung cancer. **L. Li and B. Huang.** Huazhong Univ. of Sci. and Technol. and Tong Ji Med. Sch. Tong Ji Hosp., China.
- TUM.1204 **57.8** Failure to upregulate calmodulin underlies the suppressed KCa3.1 function and enhanced sensitivity to adenosine in CD8⁺ T cells of head and neck cancer patients. **A. Chimote, V. Gawali, E. Madis, T. Wise-Draper, and L. Conforti.** Univ. of Cincinnati
- TUM.1205 **57.9** PD-1 blockade activates conventional CD4 T cells and the innate immune response during glioblastoma eradication. **S. Klein, J. Ziello, M. Speranza, P. Gokhale, P. Kirschmeier, K. Crosby, G. Freeman, and D. Reardon.** Cell Signaling Technol., Inc., Dana-Farber Cancer Inst., Harvard Med. Sch., Belfer Inst. for Applied Cancer Sci., Lurie Family Imaging Ctr. and Brigham and Women's Hosp.
- TUM.1206 **57.10** USP22 maintains regulatory T cells by stabilizing Foxp3 protein level and impairs anti-tumor immune response. **E. Montauti, Y. Zhang, and D. Fang.** Northwestern Univ., The Fourth Military Med. Univ., China and Feinberg Sch. of Med., Northwestern Univ.

SATURDAY—POSTER SESSIONS

- TUM.1207 **57.11** Tristetraprolin regulates CD8 T cell functions and antitumor immunity through targeting IL-12 family cytokines. **J. Liu, Q. Wang, H. Ning, and R. Hou.** St. Louis Univ.
- TUM.1208 **57.12** WITHDRAWN.
- TUM.1209 **57.13** NOD-*scid* *IL2rgnull* (NSG) mice deficient in murine MHC Class I and Class II expression support engraftment of functional human T cells in the absence of acute xenogeneic GVHD following injection of PBMC. **M. Brehm, M. Wiles, L. Kenney, L. Burzenski, J. Keck, D. Greiner, and L. Shultz.** Univ. of Massachusetts Med. Sch. and The Jackson Lab.
- TUM.1210 **57.14** Molec. control of Treg-induced effector T cell DNA damage and senescence for tumor immunotherapy. **X. Liu, W. Mo, J. Ye, L. Li, E.C. Hsueh, D.F. Hoff, and G. Peng.** St. Louis Univ.
- TUM.1211 **57.15** Unbiased testing of several hundred tumor-specific single nucleotide variants of a tumor for protective immunogenicity and CD8⁺ response reveals surprises. **C. Brennick, M. George, A. Hagymasi, T. Shcheglova, S. A. Seesi, I. Mandoiu, and P. Srivastava.** Univ. of Connecticut Hlth. Ctr. and Carole and Ray Neag Comprehensive Cancer Ctr., Univ. of Connecticut.
- TUM.1212 **57.16** Unbiased testing of all single nucleotide variants specific to a tumor for anti-tumor CD8⁺ T cell immune response. **S. Karandikar, T. Shcheglova, A. Hagymasi, C. Brennick, I. Mandoiu, and P. Srivastava.** Univ. of Connecticut Hlth. Ctr., Univ. of Connecticut Hlth. Ctr., Carole and Ray Neag Comprehensive Cancer Ctr. and Univ. of Connecticut.
- TUM.1213 **57.17** TSLP-mediated enhanced anti-tumor Th2 host immunity to melanoma. **J. Lai, L. Thompson, and S. Ziegler.** Benaroya Res. Inst.
- TUM.1214 **57.18** WITHDRAWN.
- TUM.1215 **57.19** Population dynamics of tumor-specific CD8 T cell differentiation from plastic to fixed dysfunctional states. **M. Philip, M. Pilkinton, R. Ramesh, W. McDonnell, R. Gangula, S. Camara, A. Chopra, A. Schietinger, and S. Mallal.** Vanderbilt Univ. Sch. of Med., Inst. for Immunology & Infectious Dis., Murdoch Univ., Australia and Mem. Sloan Kettering Cancer Ctr.
- TUM.1216 **57.20** The ceramide structure of sulfatide-analogues influences the functional activity of type II NKT cells. **L. Pasquet, K. Camara, A. Bloom, S. Richardson, A. Howell, M. Terabe, and J. Berzofsky.** NCI, NIH and Univ. of Connecticut.
- TUM.1217 **57.21** De novo DNA methylation programs restrain T cell rejuvenation during immune checkpoint blockade therapy. **B. Youngblood, H. Ghoniem, A. Moustaki, H. Abdelsamed, Y. Fan, P. Thomas, S. Federico, and E. Stewart.** St. Jude Children's Res. Hosp.
- TUM.1218 **57.22** Functional Heterogeneity in Tumor Infiltrating Lymphocytes in Early Stage Non-Small Cell Lung Cancer is not driven by Inhibitory Receptor Expression. **S.O. Brien, A. Klampatsa, J. Thompson, J. Standalick, S. Kim, B. Bensch, E.J. Wherry, S. Singhal, E. Moon, E. Eruslanov, and S. Albelda.** Univ. of Pennsylvania.
- TUM.1219 **57.23** Complex phenotyping of PD-1+ CD39+ exhausted CD8⁺ T cells in human carcinomas. **C. Egelston, C. Avalos, Y. Huang, R. Wang, S. Solomon, T. Tu, D. Simons, and P. Lee.** Beckman Res. Inst., City of Hope.
- TUM.1220 **57.24** The impact of TCR affinity on T cell differentiation and dysfunction in tumors. **M. Shakiba, M. Philip, S. Camara, N. Soggi, and A. Schietinger.** Mem. Sloan Kettering Cancer Ctr. and Vanderbilt Univ. Sch. of Med.
- TUM.1221 **57.25** Opposing roles of CD2 and 2B4 in iNKT cell cytotoxic responses. **R. Das, H. Lee, T. Gohl, R. Mack, and R. Griffin.** Michigan State Univ.
- TUM.1222 **57.26** WITHDRAWN.
- TUM.1223 **57.27** Regulation of Chitinase-3-like-1 in T cell enhances anti-tumoral T cell responses to suppress lung metastasis. **D. Kim, S. Lim, H. Lee, C. G. Lee, J. Elias, and J. Choi.** Hanyang Univ., South Korea, and Brown Univ., Warren Alpert Med. Sch.
- TUM.1224 **57.28** Mutation of the CD28 costimulatory domain confers increased CAR T cell persistence and decreased exhaustion. **J. Boucher, G. Li, B. Shrestha, Y. Zhang, P. Vishwasrao, M. Cabral, L. Guan, and M. Davila.** H. Lee Moffitt Cancer Ctr. and Res. Inst., Univ. of South Florida and Univ. of South Florida Morsani Col. of Med.
- TUM.1225 **57.29** Engineering Chimeric Antigen Receptor T-cells Against Immune Checkpoint Inhibitor PD1 and PD-L1 for Treating Pancreatic Cancer. **M.H. Fan, K.F. Fan, and C. Liu.** Taipei Med. Univ., Taiwan.
- TUM.1226 **57.30** Novel T cell therapy using spherical nucleic acids. **D. Dominguez, N. Chernyak, M. Guan, A. Long, A. Lee, Y. Chou, S. Chen, L. Qin, J. Fan, C. Mirkin, and B. Zhang.** Northwestern Univ.
- TUM.1227 **57.31** Glycogen synthase kinase-3 (GSK-3) inactivation compensates for the lack of CD28 in the priming of CD8⁺ cytotoxic T-cells: implications for anti-PD-1 immunotherapy. **C. Rudd, J. Krueger, and A. Taylor.** Centre de Recherche Hôpital Maisonneuve-Rosemont, Université de Montréal, Canada, Univ. of Montreal, Canada and Leeds Inst. of Cancer and Pathology, Univ. of Leeds, United Kingdom.
- TUM.1228 **57.32** Regulatory T cells modulate immune cells and promote tumor growth in prostatic tumor microenvironment. **S. Kumar, J. Stokes. III, S. Malik, U. Singh, R. Singh, S. Ponnazhagan, U. Manne, and S. Singh.** Cancer Biol. Res. and Training Program, Alabama State Univ., Univ. of Lucknow, India, Univ. of South Carolina Sch. of Med., Morehouse Sch. of Med., Univ. of Alabama, Birmingham and Morehouse Sch. of Med.
- TUM.1229 **57.33** Cross Reactivity of CD8⁺ T Cell Neo-epitopes to *Bifidobacterium* Boosts the Tumor Specific Population. **C. Bessell, A. Isser, J. Havel, T. Chan, and J. Schneck.** Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. and Mem. Sloan Kettering Cancer Ctr.

- TUM.1230 **57.34** Uncoupling therapeutic from immunotherapy-related adverse effects for safer and effective anti-CTLA-4 antibodies in *CTLA4* Humanized Mice. **X. Du, F. Tang, M. Liu, Y. Liu, and P. Zheng.** Children's Natl. Med. Ctr. and OncImmune, Inc.
- TUM.1231 **57.35** Identification and characterization of novel mediators of tumor-induced T-cell dysfunction. **G. Markowitz, M. Philip, S. Wong, A. Schietinger, and V. Mittal.** Weill Cornell Med. Col., Vanderbilt Univ. Sch. of Med., Houston Methodist and Mem. Sloan Kettering Cancer Ctr.
- TUM.1232 **57.36** The role of thymocyte selection-associated HMG box protein (TOX) in CD8 T cell differentiation and dysfunction. **A. Scott, M. Philip, S. Camara, M. Shakiba, O. Levy, M. Glickman, K. Chang, and A. Schietinger.** Mem. Sloan Kettering Cancer Ctr., Weill Cornell Grad. Sch. of Med. Sci., Vanderbilt Univ. Sch. of Med. and Cold Spring Harbor Lab.
- TUM.1233 **57.37** CPA9, a newly immune checkpoint molecule, regulates T cell function. **Y. Jeon and I. Choi.** Inje Univ. Col. of Med., South Korea.
- TUM.1234 **57.38** Development of highly reactive tumor antigen-specific CTLs from pluripotent stem cells. **J. Song.** Texas A&M Hlth. Sci. Ctr.
- TUM.1235 **57.39** Univ. of California, Berkeley, Univ. of California, San Francisco, Istituto Nazionale Genetica Molecolare INGM Romeo ed Enrica Invernizzi, Italy
- TUM.1236 **57.40** Neoadjuvant OX40 therapy in patients with head and neck cancer induces profound changes in tumor-infiltrating lymphocytes. **R. Duhon, C. Ballesteros-Merino, R. Bell, R. Leidner, Y. Koguchi, C. Bifulco, B. Fox, and A. Weinberg.** Earle A. Chiles Res. Inst., Providence Cancer Ctr. and Providence Portland Med. Ctr.
- TUM.1237 **57.41** Manipulating the epigenetic framework of T cells with histone deacetylase inhibitors for more robust and durable anti-tumor responses. **T. McCaw, M. Liu, M. Li, D. Starenki, S. Cooper, R. Arend, A. Forero, D. Buchsbaum, and T. Randall.** Univ. of Alabama, Birmingham and HudsonAlpha Inst. for Biotech.
- TUM.1238 **57.42** Immunosuppressive effects of sMIC abrogate immunotherapy efficacy in a mouse model of breast cancer. **A. Berkley, E. Toy, R. Cook, Z. Ye, J. Grogan, J. Schartner, and J. Kim.** Genentech, Inc.
- TUM.1239 **57.43** IL-37 mediates the anti-tumor activity in hepatocellular carcinoma via T cell activation and angiogenesis suppression. **Y. Mei, W. Teng, H. Y. Teo, and H. Liu.** Natl. Univ. of Singapore, Singapore.
- TUM.1240 **57.44** Circadian Clock disruption promotes TH17 Inflammation and Colon Cancer. **A. Osman, A. Saadalla, F. Gounari, F. Turek, A. Keshavarzian, K. Rakshit, A. Matveyenko, and K. Khazaie.** Mayo Clin., The Univ. of Chicago, Northwestern Univ. and Rush Univ. Med. Ctr.
- TUM.1241 **57.45** Modulation of T_{FH}-like cells and anti-tumor activity of immune checkpoint blockade. **R. Zappasodi, S. Budhu, M. Hellmann, M. Postow, Y. Senbabaoglu, S. Manne, B. Gasmi, C. Liu, H. Zhong, Y. Li, A. Huang, D. Hirschhorn-Cymerman, K. Panageas, E.J. Wherry, T. Merghoub, and J. Wolchok.** Mem. Sloan Kettering Cancer Ctr. and Univ. of Pennsylvania.
- TUM.1242 **57.46** Discovery screen platform for co-modulators of T cell effector function against tumors. **E. Kim, K. Sekar, D. Sakamoto, D. Yen, F. Lee, J. Bailis, W. Ouyang, and Y. Zheng.** Amgen, Inc. San Francisco.
- TUM.1243 **57.47** Generation of murine tumor cell lines to assess in vivo anti-tumor immune responses to melanoma. **J. Hope, M. Henriquez, R. Tinoco, and L. Bradley.** Sanford Burnham Prebys Med. Discovery Inst.
- TUM.1244 **57.48** Glucocorticoid receptor signaling during prolonged psychological stress compromises the ability of invariant NKT cells to participate in antitumor immune surveillance. **P. Rudak, J. Choi, and S.M. Haeryfar.** Univ. of Western Ontario, Canada.
- TUM.1245 **57.49** Prediction of hosts who are more likely to respond to PD-1 inhibitors / blocking antibodies. **P. Daftarian, M. George, M. C. Tleugabulova, D. Magcase, W. Ouerkaxi, and M. Delcommenne.** MBL International and MBL Bion.
- TUM.1246 **57.50** TIGIT blockade prevents CTL and NK cell exhaustion and leads to tumor rejection in mice. **Z. Tian.** Univ. of Sci. & Technol. of China, China.
- TUM.1247 **57.51** Canonical Wnt signaling in Treg contributes to colon cancer. **A. Osman, A. Saadalla, J. Quand, F. Gounari, K. Pavelko, and K. Khazaie.** Mayo Clin. and The Univ. of Chicago.
- TUM.1248 **57.52** Immune Checkpoints Acting as Gatekeepers of T Lymphocyte Self-renewal. **M. Carrera.** Johns Hopkins Univ. Sch. of Med.

58. THERAPEUTIC ANTIBODIES AND IMMUNOMODULATORS

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- VAC.1250 **58.1** Generation of a therapeutic monoclonal antibody for acute myeloid leukemia by employing the U937 cell line as a surrogate antigen. **B. Chen, E. Kandov, and B. Ghebrehiwet.** Winston Churchill High Sch. and Stony Brook Univ.
- VAC.1251 **58.2** Detection of Immune Cell Markers and Metabolic Profiles in Saliva and Oral Brush Samples from Oropharyngeal Cancer Patients. **K. Parker.** Frederick Natl. Lab for Cancer Res.
- VAC.1252 **58.3** Identification of dysfunctional CD8⁺ T-cell subsets rescued by PD-L1 blockade in the tumor microenvironment. **T. Yamauchi, T. Hoki, K. Odunsi, and F. Ito.** Roswell Park Cancer Inst.
- VAC.1253 **58.4** Intrapulmonary delivery of TLR agonists associated with systemic chemotherapy to treat metastatic cancer. **E. Goguet, D. Klinman, and D. Tross.** NCI, NIH.
- VAC.1254 **58.5** Tissue specific CD91⁺ APCs determine effectiveness of immunosurveillance mediated by HSPs. **A. Sedlacek, L. Kinner, Y. Wang, A. Mizes, and R. Binder.** Univ. of Pittsburgh and Univ. of Pittsburgh Sch. of Med.

SATURDAY—POSTER SESSIONS

- VAC.1255 **58.6** Combination of TLR8 and TLR4 agonists reduces the degrading effects of nicotine on DC-NK mediated effector T cells generation. **M. Nouri-Shirazi, S. Tamjidi, and E. Nourishirazi.** Florida Atlantic Univ., Charles E Schmidt Col. of Med., Univ. of Miami and Miller Sch. of Med.
- VAC.1256 **58.7** Altering the cytokine profile in the pancreatic cancer microenvironment with heat shock protein-90 inhibitors to enhance immunotherapy. **G. Lesinski, Y. Zhang, M. Farren, H. Komar, B. Ware, B. Olson, M. Zaidi, G. Nagaraju, M. Akce, O. Alese, W. Shaib, C. Wu, and B. El-Rayes.** Emory Univ.
- VAC.1257 **58.8** Inhibition of intrinsic coagulation improves immune checkpoint-targeted gene delivery of cationic solid lipid nanoparticles. **T. Sun, X. Wu, and J. Quand.** Jilin Univ., China and Columbia Univ. Med. Ctr.
- VAC.1258 **58.9** Prominent Pro-Inflammatory Effect of Decitabine-Chemotherapy-Anti-PD-1 Combination Therapy In Patients With Advanced Untreated Non-Hodgkin's Lymphoma And Solid Tumor. **J. Nie, C. Wang, Y. Liu, Q. Mei, W. Zhang, and W. Han.** Chinese PLA Gen. Hosp., China.
- VAC.1259 **58.10** Beneficial role of Prostaglandin E2 (PGE2) in Photodynamic Therapy-induced anti-tumor immunity. **R. Falk-Mahapatra and S. Gollnick.** Roswell Park Cancer Inst.
- VAC.1260 **58.11** Particulate Delivery of Innate Immune Agonist for Cancer Immunotherapy. **R. Watkins, P. Tiet, R. Junkins, M. Gallovic, N. Chen, B. Johnson, E. Bachelder, K. Ainslie, and J. Ting.** Univ. of North Carolina, Chapel Hill.
- VAC.1261 **58.12** Expression optimization and functional testing of a scorpion toxin/antibody fragment fusion protein, ACDC1x, for the immunotherapeutic treatment of glioblastoma. **R. Cook, A. Diamos, H. Mason, R. Sirianni, T. Mor, and J. Blattman.** Arizona State Univ. and Barrow Neurological Inst.
- VAC.1262 **58.13** Priming with percutaneous bacillus Calmette-Guerin (BCG) prior to intravesical BCG treatment safely improves BCG-specific response in patients with bladder cancer. **N. Ji, N. Mukherjee, E. Morales, M. Tomasini, V. Hurez, T. Curiel, G. Abate, D. Hoft, X. Zhao, M. Sourindra, L. Cooper, and R. Svatek.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, St. Louis Univ., M.D. Anderson Cancer Ctr. and Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- VAC.1263 **58.14** Drugging drug resistance with bystander-assisted immunotherapy. **R. Mancini, A. Nielsen, J. Hantho, and A. Burt.** Washington State Univ.
- VAC.1264 **58.15** Cryptotanshinone has curative dual anti-proliferative and immunotherapeutic effects on Lewis lung carcinoma. **D. Yang, S. Liu, Z. Han, A. Trivett, H. Lin, and J. Oppenheim.** NCI, NIH, and Guang An Men Hosp. of China Acad. of Chinese Med. Sci., China.
- VAC.1265 **58.16** Enhancing the immunotherapeutic Trastuzumab for selective activity in the low pH tumor microenvironment. **A. Nguyen, Y. Liu, and J. Maynard.** Univ. of Texas, Austin.
- VAC.1266 **58.17** Using anti-CD38 immunotherapy to enhance anti-tumor T-cell immunity in chronic lymphocytic leukemia (CLL). **A. Manna, L. Lewis-Tuffin, S. Ailawadhi, A. Chanan-Khan, and A. Paulus.** Mayo Clin., Florida.
- VAC.1267 **58.18** Agonist Redirected Checkpoint (ARC), SIRP α -Fc-CD40L, for Cancer Immunotherapy. **G. Fromm, S. de Silva, A. Patel, K. Johannes, J. Hornblower, and T. Schreiber.** Shattuck Labs, Inc.
- VAC.1268 **58.19** Agonist Redirected Checkpoint (ARC), TIM3-Fc-OX40L, for Cancer Immunotherapy. **G. Fromm, S. de Silva, A. Patel, K. Johannes, J. Hornblower, and T. Schreiber.** Shattuck Labs, Inc.
- VAC.1269 **58.20** Non-cellular mechanism of peripheral immunosuppression as a novel feature in experimental glioblastoma. **R. Khadka, K. Ayasoufi, F. Jin, C. Malo, N. Desai, and A. Johnson.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Mayo Clin.
- VAC.1270 **58.21** Activation of the CD137 Pathway in T cells by a CD137 x 5T4 bispecific ADAPTIR Molecule Requires Co-engagement of CD137 and 5T4. **G. Blahnik-Fagan, R. Bader, J. Bannink, D. Mitchell, L. Misher, C. McMahan, D. Bienvenue, S. Fritzell, A. Säll, L. von Schantz, P. Ellmark, M. Nelson, and G. Hernandez-Hoyos.** Aptevo Therapeutics Inc. and Alligator Bioscience AB, Sweden.
- VAC.1271 **58.22** Changes of immune profile following nanosecond electric pulse treatment for pancreatic cancer. **S. Guo, N. Burcus, J. Hornef, Y. Jing, C. Jiang, R. Heller, and S. Beebe.** Old Dominion Univ.
- 59. VETERINARY AND COMPARATIVE IMMUNOLOGY**
- Poster Session**
- SAT. 2:30 PM—EXHIBIT/POSTER HALL
- VET.1272 **59.1** Progress in the development of a cell culture system to study the immune responses of reef-building corals. **K. Garrison and C. Kuo.** St. Mary's Col. of California.
- VET.1273 **59.2** Evolutionary modification of the VLR-based adaptive immune system in jawless vertebrates: functional implications. **S. Das, J. Li, M. Hirano, J. Rast, and M. Cooper.** Emory Univ. Sch. of Med.
- VET.1274 **59.3** Expansion and exhaustion of alloantigen-specific cytotoxic T lymphocytes (CTL) in channel catfish, *Ictalurus punctatus*. **D. Spencer, E. Bengtén, and M. Wilson.** Univ. of Mississippi Med. Ctr.
- VET.1265 **59.4** Leukocyte immune-type receptor expressing cells increase in response to *Edwardsiella ictaluri* infection in Channel Catfish, *Ictalurus punctatus*. **L. Blackmon, S. Quiniou, M. Wilson, and E. Bengtén.** Univ. of Mississippi Med. Ctr., and USDA-ARS-WARU Mississippi.
- VET.1266 **59.5** The fish adaptive immune response and its suppression by helminths. **N. Steinel and D. Bolnick.** Univ. of Texas, Austin.
- VET.1267 **59.6** Immunomediator expression profiling in two beluga whale (*Delphinapterus leucas*) clinical cases. **A. Hofstetter, W.V. Bonn, and R. Sacco.** USDA-ARS Natl. Animal Dis. Ctr. and Shedd Aquarium.

- VET.1268 **59.7** Identification of a DRB3*1101-restricted CD4 T cell response against bovine respiratory syncytial virus. **A. Hofstetter, A. Yadav, J. Norimine, and R. Sacco.** USDA-ARS Natl. Animal Dis. Ctr., Iowa State Univ. and Univ. of Miyazaki, Japan.
- VET.1269 **59.8** Somatic hypermutation of TCR α contributes to thymic positive selection in sharks. **J. Ott, C. Castro, T. Deiss, Y. Ota, M. Flajnik, and M. Criscitiello.** Texas A&M CVM, Univ. of Maryland Sch. of Med., Univ. of Chicago and Texas A&M Univ.
- VET.1270 **59.9** The Florida manatee (*Trichechus manatus latirostris*) T cell receptor loci exhibit V segment locus synteny and chain-specific evolution. **B. Breaux, M. Hunter, M.P. Cruz-Schneider, L. Sena, R. Bonde, and M. Criscitiello.** Texas A&M Univ., U.S. Ecological Survey, Univ. of Florida, Federal Univ. of Para, Brazil and Texas A&M Hlth. Sci. Ctr.
- VET.1271 **59.10** Efficacy of a Prototype Live-vectored Multi-antigen African Swine Fever Virus Vaccine. **W. Mwangi, S. Lokhandwala, L. Popescu, N. Sangewar, C. Elijah, V. Petrovan, A. Stoian, M. Olcha, J. Bray, S. Waghela, M. Kerrigan, and R. Rowland.** Kansas State Univ. and Col. of Vet. Med., Texas A&M.
- VET.1272 **59.11** Porcine SIRPA binds to human CD47 to inhibit phagocytosis: implications for human hematopoietic stem cell transplantation into severe combined immunodeficient (SCID) pigs. **A. Boettcher, J. Cunnick, E. Powell, T. Egner, S. Charley, C. Loving, and C. Tuggle.** Iowa State Univ. and USDA-ARS Natl. Animal Dis. Ctr.
- VET.1273 **59.12** Minipigs as neonatal animal model for tuberculosis vaccine efficacy testing. **M.G. Juarrero, L. Ramos, A. Obregon-Henao, M. Henao-Tamayo, R. Bowen, A. Izzo, and J. Lunney.** Colorado State Univ. and USDA ARS.
- VET.1274 **59.13** CD8⁺ single positive and CD4⁺CD8⁺ double positive cells constitute a significant proportion of the total lymphocytes in the anterior chamber of the normal porcine eye. **T. Maslanka, P. Socha, M. Dąbrowski, N. Ziółkowska, and H. Ziółkowska.** Univ. of Warmia and Mazury in Olsztyn, Poland.
- VET.1275 **59.14** Transcriptome Responses to Resp. Virus Infection of Pigs within the Tracheobronchial Lymphnode Following Infection with PRRSV, PCV2 or IAV. **L. Miller, D. Fleming, G. Harhay, M. Kehrl, and K. Lager.** USDA-ARS Natl. Animal Dis. Ctr. and USDA-ARS Roman L. Hruska U.S. Meat Animal Res. Ctr.
- VET.1276 **59.15** Birth weight affects immune response of piglets during the peri-weaning period. **L.L. Verso, J. Matte, G. Talbot, J. Lapointe, N. Bissonnette, F. Guay, B. Ouattara, U. Luna, and M. Lessard.** Agr. and Agri-Food Canada, Canada, Laval Univ., Canada and Universidade Federal de Mato Grosso, Brazil.
- VET.1277 **59.16** Analysis of T cell antigen receptor expression by porcine natural killer T cells. **G. Yang, B.L. Artiaga, A. Jayaprakash, R. Sachidanandam, and J. Driver.** Univ. of Florida and Girihlet Inc.
- VET.1278 **59.17** β -glucan induced training and tolerance: alterations to primary monocytes. **K. Byrne, H. Beiki, C. Tuggle, and C. Loving.** USDA-ARS Natl. Animal Dis. Ctr. and Iowa State Univ.
- VET.1279 **59.18** Classification the WC1 gene family in *Sus scrofa* and evaluation of individual SRCR domain affinity for *Mycobacterium bovis* and *Leptospira spp.* **L.L. Page, J. Buck, N. Boisvert, A. Gillespie, E. Hudgens, H. Hsu, C. Baldwin, and J. Telfer.** Univ. of Massachusetts Amherst and Univ. of Maryland Sch. of Med.
- VET.1280 **59.19** Bacterial and viral pathogen associated molecular patterns create different early transcriptomic landscapes in bovine macrophages. **F. Toka, K. Dunaway, F. Smaltz, L. Szulc-Dabrowska, J. Drnevich, M. Mielcarska, M. Bossowska-Nowicka, and M. Schweizer.** Warsaw Univ. of Life Sci. Poland, Ross Univ. Sch. of Vet. Med., St. Kitts and Nevis, HPCBio and the Carver Biotechnology Ctr., Univ. of Illinois, Inst. of Virology and Immunology and Vetsuisse Fac. Univ. of Bern, Switzerland.
- VET.1281 **59.20** Investigating the effect of pegylated granulocyte colony stimulating factor therapy on experimental mastitis in lactating Holsteins. **E. Powell, J. Lippolis, T. Reinhardt, and E. Casas.** USDA-ARS Natl. Animal Dis. Ctr. and Oak Ridge Inst. for Sci. and Educ.
- VET.1282 **59.21** Probiotic microbes evoke different responses from bovine BAL in vitro. **S. Eicher, C. Chitko-McKown, and K. Bryan.** USDA-ARS, USDA-ARS Roman L. Hruska U.S. Meat Animal Res. Ctr. and Chr Hansen.
- VET.1283 **59.22** Mucosal cellular immune responses following *Escherichia coli* O157:H7 bacterin vaccination associated with reduced fecal shedding. **R. Schaut, P. Boggiatto, M. Palmer, C. Loving, and V. Sharma.** USDA-ARS Natl. Animal Dis. Ctr.
- VET.1284 **59.23** Characterization of the cellular immune response to *Brucella abortus* RB51 vaccination and boost in cattle. **P. Boggiatto and S. Olsen.** USDA-ARS Natl. Animal Dis. Ctr.
- VET.1285 **59.24** HIV neutralization with novel structural and genetic diversity of cow ultralong CDR3 antibodies. **V. Smider.** The Scripps Res. Inst.
- VET.1286 **59.25** Association between bovine viral diarrhea virus load in subsets of peripheral blood mononuclear cells (PBMC) in persistently infected animals and health outcome. **S. Falkenberg, R. Dassanayake, P. Walz, J. Neill, and J. Ridpath.** USDA-ARS Natl. Animal Dis. Ctr. and Col. of Vet. Med. and Auburn Univ.
- VET.1287 **59.26** Decoding the Feline Leukocyte Antigen MHC class I system via SMRT sequencing. **P. Hess, J. Holmes, A. Dickey, E. Scholl, and J. Thorne.** North Carolina State Univ.
- VET.1288 **59.27** The prevalent Boxer MHC class Ia allele Dog Leukocyte Antigen (DLA)-88*034:01 presents 9-mer peptides with a defined binding motif. **P. Hess, P. Nemeč, A. Kapatos, and J. Holmes.** North Carolina State Univ.
- VET.1289 **59.28** PD-1/PD-L1 Monoclonal Antibody Develop. for Canine Cancer Therapy. **J.W. Choi, S. Withers, R. Sciammas, R. Rebhun, and S. McSorley.** Ctr. for Comparative Med., Sch. of Vet. Med., Univ. of California, Davis and Ctr. for Companion Animal Hlth., Sch. of Vet. Med., Univ. of California, Davis.
- VET.1290 **59.29** Characterization of the immune reagent chicken IL-16 **A. Grant, W. Kim, and H. Lillehoj.** USDA-ARS Animal Biosciences and Biotechnology Lab. and Beltsville Agr. Res. Ctr.

SATURDAY—POSTER SESSIONS

- VET.1291 **59.30** Dietary supplementation of *Allium hookeri* improved intestinal immune response on necrotic enteritis of young broiler chickens. **S.H. Lee, Y. Lee, H.S. Lillehoj, J. Kim, H. Jang, K. Hwang, J. Choe, and D. Kim.** Natl. Inst. of Agr. Sci., South Korea, USDA-ARS Natl. Animal Dis. Ctr.
- VET.1292 **59.31** Porcine macrophage-like cells permit viral replication, produce inflammatory mediators, and undergo apoptosis following infection with Rift Valley fever virus MP-12. **L. Noronha, D. Smolensky, V. Cox, E. Schirtzinger, C. Chitko-McKown, Z. Fawver, and W. Wilson.** USDA-ARS Ctr. for Grain and Animal Hlth. Res. and USDA-ARS Roman L. Hruska U.S. Meat Animal Res. Ctr.
- VET.1293 **59.32** Resistance of field-isolated porcine epidemic diarrhea virus to interferon and neutralizing antibody. **J. Park and H. Shin.** Chungnam Natl. Univ., South Korea.
- VET.1294 **59.33** TCR Vbeta usage differences are associated with Marek's disease resistance in the chicken. **C. Hearn, E. Ray, and H. Cheng.** Michigan State Univ. and USDA.
- VET.1295 **59.34** Development and Characterization of Chicken CD127-Specific Antibodies. **Z. Sun, H. Zhao, W. Kim, A. Panebra, H. Lillehoj, Z. Xianyu, C. Gu, X. Yan, and C. Li.** Beltsville Agr. Res.Ctr. and Univ. of Delaware.
- VET.1296 **59.35** Lactation stage impacts the glycolytic function of CD4⁺ T cells during ex vivo activation. **J. Eder, P. Gorden, J. Lippolis, T. Reinhardt, and R. Sacco.** Iowa State Univ. and USDA-ARS Natl. Animal Dis. Ctr.

60. IMMUNE RESPONSES TO VIRUSES IN THE RESPIRATORY TRACT

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- VIR.1298 **60.1** GITR/GITRL interaction in the lung provides signal 4 for T cell expansion and T_{RM} formation. **K.L. Chu, K.C. Wang, N. Batista, D. Clouthier, A. Zhou, and T. Watts.** Univ. of Toronto, Canada.
- VIR.1299 **60.2** Single-cycle respiratory syncytial virus infection induces robust adaptive immune responses and reduces disease severity in mice. **M. Schmidt, A. Oomens, and S. Varga.** Univ. of Iowa and Oklahoma State Univ.
- VIR.1300 **60.3** Nlrp12 mediates adverse neutrophil recruitment during influenza virus infection. **E. Hornick, B. Banoth, A. Miller, Z. Zacharias, N. Jain, M. Wilson, K. Gibson-Corley, K. Legge, G. Bishop, F. Sutterwala, and S. Cassel.** Univ. of Iowa and Cedars-Sinai Med. Ctr.
- VIR.1301 **60.4** Viral MHC class I inhibition evades protective tissue-resident memory CD8⁺ T cells (T_{RM}) and influences T_{RM} immunodominance within specific niches. **E. Lauron, L. Yang, M. Bern, G. Williams, A. Boon, and W. Yokoyama.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1302 **60.5** Disease manifestations with immune alteration by bacterial neuraminidases in influenza virus infection with *Streptococcus pneumoniae* superinfection. **A. Dutta, C. Huang, Y. Hseih, T. Chen, C. Lin, Y. Lin, C. Chang, Y. He, Y. Huang, and T. Chen.** Chang Gung Mem. Chang Gung, Mem. Hosp, Taiwan.
- VIR.1303 **60.6** Detrimental role of type I interferon signaling in respiratory syncytial virus infection. **M. Ansar, N. Komaravelli, T. Ivanciuc, A. Casola, and R. Garofalo.** Univ. of Texas Med. Br., Galveston.
- VIR.1304 **60.7** Early transcriptional responses to influenza virus infections in vivo. **R. Langlois, L. Sjaastad, E. Fay, M. Maccietto, and S. Shen.** Univ. of Minnesota Med. Sch.
- VIR.1305 **60.8** Role of mucin 19 in the respiratory tract. **K. McBride, N. Cheemaria, and M. Guerrero-Plata.** Louisiana State Univ. and Louisiana State Univ., Baton Rouge.
- VIR.1306 **60.9** IFITM3 is cardioprotective during influenza virus infection. **A. Kenney, A. Imas, M. Rajaram, and J. Yount.** Ohio State Univ. Col. of Med.
- VIR.1307 **60.10** Host antigen modulated anti-influenza immunity with antigen level dependent distinct mechanisms of severe influenza. **C. Huang, A. Dutta, C. Huang, T. Chen, C. Lin, Y. Lin, C. Chang, Y. He, Y. Huang, and T. Chen.** Chang Gung Mem. Hosp. and Chang Gung Univ., Taiwan.
- VIR.1308 **60.11** Galectin-3 enhances avian H5N1 influenza A virus-induced pulmonary inflammation by promoting NLRP3 inflammasome activation. **H. Chen, Y. Chen, S. Wang, T. Lo, and F. Liu.** Inst. of Biomed. Sci., Academia Sinica, Taiwan, Kaohsiung Med. Univ., Taiwan.
- VIR.1309 **60.12** Dendritic cells influence the altered neonatal CD8 T cell immunodominance hierarchy during influenza virus infection. **L. Heil, S. Oliphant, L. Lines, M. Hollifield, and B. Garvy.** Univ. of Kentucky
- VIR.1310 **60.13** Bioactive lipids serve as biomarkers of host immune response during severe influenza infection in pediatric patients. **V. Anania, A. Randolph, J. McBride, X. Yang, C. Rosenberger, and R. Mathews.** Genentech, Inc., Boston Children's Hosp. and Harvard Med. Sch.
- VIR.1311 **60.14** Toll-like receptor signalling protects against IL-33 led virus-induced asthmatic response in a Type I Interferon independent manner. **S. Wali, J. Flores, D. Goldblatt, M. Tuvim, B. Dickey, and S. Evans.** Univ. of Texas Hlth. Sci. Ctr and MD Anderson Cancer Ctr., Houston.
- VIR.1312 **60.15** Enhanced immunopathology occurs during *Streptococcus pneumoniae* dual infection with respiratory syncytial virus in neonates. **D. Verhoeven.** Iowa State Univ.
- VIR.1313 **60.16** Plasma surfactant proteins and lipid mediators in the airway associate with different stages of viral infection and resolution in a sub-lethal mouse Influenza A model. **A. Nguyen, K. Wong, A. Chakrabarti, J. Jiang, S. Ulufatu, S. Liu, N. Valle, S. Park, M. Xu, C. Rosenberger, V. Anania, and J. McBride.** Genentech, Inc.

- VIR.1314 **60.17** Induction and isolation of protective influenza neuraminidase specific antibodies in humans following seasonal vaccination. **J. Kobie, M. Piepenbrink, A. Nogales, and L. Martinez-Sobrido.** Univ. of Rochester Med. Ctr.
- VIR.1315 **60.18** Cytokines levels in nasal lavage in pediatric patients infected with respiratory viruses. **A. Rosas-Taraco, S. Leon-Icaza, J. Gonzalez-Chapa, B. Silva-Ramirez, A. Martinez-Castilla, C. Treviño-Garza, M. De la O-Cavazos, F. Montes-Tapia, and M. Salinas-Carmona.** Universidad Autonoma de Nuevo Leon, Mexico and Instituto Mexicano del Seguro Social, Mexico.
- VIR.1316 **60.19** Exchange Proteins Directly Activated by cAMP and the Role of these Proteins in Resp. Syncytial Virus Infection. **W. Wu, E. Choi, Y. Ren, Y. Chen, S. Liu, J. Ren, R. Garfalo, J. Zhou, and X. Bao.** Univ. of Texas Med. Br., Galveston and Tongji Univ. Sch. of Med., China.
- VIR.1317 **60.20** IRF4-dependent DCs regulate T cell effector and memory responses in influenza virus infection. **E. Ainsua-Enrich, I. Hatipoglu, S. Kadel, S. Turner, J. Paul, S. Singh, H. Bagavant, and S. Kovats.** Oklahoma Med. Res. Fndn.
- VIR.1318 **60.21** Interferon signal transduction in airway barrier epithelial cells is key to controlling human picornavirus infection in the lung. **Y. Zhang, D. Mao, S. Keeler, K. Wu, E. Agapov, and M. Holtzman.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1321 **61.3** SIV-specific CD8 T cells are largely excluded from B cell follicles during early SIV infection. **S. Li, E. Connick, and H. Gong.** Univ. of Minnesota and Univ. of Arizona.
- VIR.1322 **61.4** Intranasal infection by MCMV reveals key roles for viral evasion of MHC-I to enable viral spreading and CD4 T cell help to promote functional CD8 T cell responses. **S. Zhang and C. Snyder.** Thomas Jefferson Univ.
- VIR.1323 **61.5** Profiling TCR affinity distribution in human CD8+ T cell subsets responding to a cytomegalovirus epitope. **C. Williams, K. Ma, C. He, E. Sun, S. Zhang, and N. Jiang.** The Univ. of Texas, Austin.
- VIR.1324 **61.6** Protease activated receptor-1 signaling: its potential implication in HIV driven immune activation, inflammation/coagulation. **H. Chen, M. Smith, J. Herz, S. Gossa, T. Karpova, D. McGavern, and M. Catalfamo.** NIAID, NIH, NINDS, NIH, NCI, NIH, and Georgetown Univ. Sch. of Med.
- VIR.1325 **61.7** Vitamin A deficiency provokes aberrant T cell responses and exacerbates liver injury in LCMV-infected mice. **Y. Liang, P. Yi, and M.R. Hughes.** Univ. of Texas Med. Br., Galveston.
- VIR.1326 **61.8** ZIKV-specific CD8 T cell immunity in humans is affected by DENV pre-exposure. **A. Grifoni, J. Pham, B. Peters, M. L. de-Oliveira-Pinto, A. de Silva, A. Durbin, S. Diehl, E. Harris, J. Crowe, M. Busch, H. Vivanco-Cid, B. Graham, L. Turtle, E. Kallas, D. Watkins, D. Weiskopf, and A. Sette.** La Jolla Inst. for Allergy and Immunology, Oswaldo Cruz Fndn., Brazil, Univ. of North Carolina, Chapel Hill, Johns Hopkins Bloomberg Sch. of Publ. Hlth., Univ. of Vermont, Univ. of California, Berkeley, Vanderbilt Univ. Med. Ctr., Blood Systems Res. Inst., San Francisco, Instituto de Investigaciones Medico-Biologicas, Universidad Veracruzana, Veracruz, Mexico, NIAID, NIH, Univ. of Liverpool, United Kingdom, Sch. of Med., Univ. of São Paulo, Brazil, and Univ. of Miami Miller Sch. of Med.

61. T CELL RESPONSES DURING ACUTE AND CHRONIC VIRUS INFECTIONS

Poster Session

SAT. 2:30 PM—EXHIBIT/POSTER HALL

- VIR.1319 **61.1** Priming of CD8 T cells in established chronic viral infection directs a distinct differentiation and functional program for long-term immunity. **L. Snell and D. Brooks.** Princess Margaret Hosp., Canada and Univ. of Toronto, Canada.
- VIR.1320 **61.2** Virus antigen-specific CD8 T cells contribute to brain atrophy during Theiler's murine encephalomyelitis virus (TMEV) infection of the CNS. **M. Mix, V. Ruiz, A.H. Kelcher, S. Macura, P. Mishra, and A. Johnson.** Mayo Clin., Minneapolis Med. Res. Fndn. and Univ. of Minnesota.

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SUNDAY MORNING

MAY 6

62. MAJOR SYMPOSIUM C: NEW REGULATORY CONCEPTS FROM HUMAN IMMUNOLOGY STUDIES

Major Symposium

SUN. 8:00 AM—BALLROOM D

CHAIRS: B. Jabri, M.J. Lenardo

- 8:00 Inflammation, tissue resident gamma delta T cells, and the journey of no return. **B. Jabri**. Univ. of Chicago.
- 8:35 New precision medicine therapies emerge from genomic investigation of diseases of the immune system. **M. Lenardo**. NIAID, NIH.
- 9:10 Genetic and environmental determinants of interindividual variation in immune responses to infection. **L. Barreiro**. Univ. of Montreal/CHU St.-Justine, Canada.
- 9:45 Lymphocyte diversity: matching specificity and function. **F. Sallusto**. Inst. for Res. in Biomed., USI and ETH Zurich, Switzerland.
- 10:20 Human genetics to innate immune pathways. **R. Xavier**. Harvard Univ. and Broad Inst.
- 10:55 Primary immune regulatory disorders as human models to understand immunological tolerance **M. Roncarolo** Stanford Sch. of Med..

63. MAJOR SYMPOSIUM D: GONE BUT NOT FORGOTTEN: THE IMPACT OF CELL DEATH ON THE IMMUNE RESPONSE

Major Symposium

SUN. 8:00 AM—BALLROOM EFG

CHAIRS: C.V. Rothlin, A.A. Oberst

- 8:00 Exposure of phosphatidylserine on apoptotic cells. **S. Nagata**. iFREC and Osaka Univ.
- 8:35 Phagocyte responses to dying cells. **J. Blander**. Weill Cornell Med.
- 9:10 Death begets a new beginning: recognition of apoptotic cells in the induction of tissue repair. **C. Rothlin**. Yale Sch. of Med.
- 9:45 Lymphatic endothelial cell death as a vehicle for antigen exchange and maintenance of T cell memory. **R. Kedl**. Univ. of Colorado Denver Sch. of Med.
- 10:20 The innate immune response to Zika virus infection of the central nervous system. **A. Oberst**. Univ. of Washington.
- 10:55 Regulation of inflammasome activation and cell death. **T-D. Kanneganti**. St. Jude Children's Res. Hosp.

64. NATIONAL INSTITUTE ON AGING (NIA) SYMPOSIUM: AGING AND HEMATOPOIESIS

NIH-Sponsored Session

SUN. 8:00 AM—ROOM 19AB

CHAIRS: R.A. Fuldner, K. Dorshkind

- 8:00 Aging of the bone marrow environment. **P. Frenette**. Albert Einstein Col. of Med.
- 8:30 Hematopoietic Stem Cell Function in Regeneration and Aging. **E. Passegue**. Columbia Univ. Med. Ctr.
- 9:00 The effects of aging on the transcriptional profile of hematopoietic stem cell subpopulations. **K. Dorshkind**. Univ. of California, Los Angeles.
- 9:30 Hematopoietic stem cell aging and rejuvenation: inflammasome regulation of the mitochondrial metabolic checkpoint. **D. Chen**. Univ. of California, Berkeley.

65. BASIC AUTOIMMUNITY: MICROBIAL CONNECTIONS

Block Symposium

SUN. 8:00 AM—ROOM 18CD

CHAIRS: S. Bolland, K. Knight

- 8:00 A protective MHC class II molecule prevents autoimmune diabetes by selecting for specific intestinal microbes early in ontogeny. **M. Silverman, L. Denu and J-B. Lubin**. Perelman Sch. of Med., Univ. of Pennsylvania and Children's Hosp. of Philadelphia. (162.8)
- 8:15 MDA5, a Janus-faced dsRNA sensor in Coxsackievirus-accelerated autoimmune diabetes. **H. Tse, A. Burg and Y-G. Chen**. Univ. of Alabama, Birmingham and Med. Col. of Wisconsin. (162.12)
- 8:30 Nod2 is a negative regulator of arthritogenic T cell responses in SKG mice. **R. Napier, E. Lee, E. Vance, P. Snow, C. Dawson, P. Stenzel, M. Davey, S. Sakaguchi and H. Rosenzweig**. Oregon Hlth. & Sci. Univ., VA Portland Hlth. Care Syst. and Osaka Univ., Japan. (162.1)
- 8:45 Bacterial biofilm product Curli/eDNA induces NETs and serum anti-Curli/eDNA levels correlate with bacteriuria and lupus activity. **R. Pachucki, C. Corradetti, S. Tursi, L. Kohler, L. Nicastro, S. Gallucci, L. Kilpatrick, C. Tükel and R. Caricchio**. Temple Univ. Sch. of Med. (162.7)
- 9:00 Reduction of autoantibody in SLE by probiotic exopolysaccharide-induced inhibitory dendritic cells. **O. Kalinina, K. Knight**. Loyola Univ. Chicago. (162.14)
- 9:15 Lupus-suppressing effect of VSV-primed CD8+ T cell subsets. **H. Kole, B. Scott, S. Crampton, G. Sule, J. Deane and S. Bolland**. NIAID, NIH. (162.2)

- 9:30 Spontaneous translocation of a human enterococcal gut pathobiont drives systemic autoimmunity. **S. M. Vieira, M. Hiltensperger, V. Kumar, D. Zegarar-Ruiz, C. Dehner, A. Barbieri, D. Jain, A. Goodman and M. Kriegel.** Yale Sch. of Med. (162.10)
- 9:45 A single infection with a malaria parasite protects mice from lethal autoimmune glomerulonephritis. **S. Bolland, H. Kole, B. Scott and L. Amo.** NIAID, NIH. (162.13)

66. MECHANISMS OF CYTOKINE AND CHEMOKINE FUNCTION AND REGULATION

Block Symposium

SUN. 8:00 AM—ROOM 12AB

CHAIRS: M.J. McGeachy, L.E. Harrington

- 8:00 CD28 suppresses IL-23- and IL-1 β -driven human Th17 development. **M. McGeachy, S. Revu, J. Wu, N. Rittenhouse, A. Menk, G. Delgoffe and A. Poholek.** Univ. of Pittsburgh and Univ. of Pittsburgh Sch. of Med. (164.1)
- 8:15 A critical role for IL-37 in regulatory T cell maintenance and CD4⁺ T cell inhibition. **D. Osborne, J. Domenico, C. Dinarello and M. Fujita.** Univ. of Colorado. (164.2)
- 8:30 Understanding the role of STAT4 in experimental autoimmune encephalomyelitis. **A. Anderson, B. Shin, I. McWilliams and L. Harrington.** Univ. of Alabama, Birmingham. (164.3)
- 8:45 Arid5a orchestrates IL-17-mediated inflammation through post-transcriptional control of mRNA. **N. Amatya, J. Agustin Cruz, F. Aggor, A. Garg, A. Berman, U. Atasooy and S. Gaffen.** Univ. of Pittsburgh and Univ. of Michigan Med. Sch. (164.4)
- 9:00 RNA Binding Protein HuR is critical for the regulation of IL-2 Expression in CD4⁺ T Cells. **T. Taylor, J. Ellis, S. Ridenhour and U. Atasooy.** Univ. of Missouri and Univ. of Michigan. (164.5)
- 9:15 Manipulation of CXCR4 signaling by human cytomegalovirus (HCMV) interleukin-10. **J. Spencer, C. Tu.** Univ. of San Francisco. (164.6)
- 9:30 IL-27 induces autophagy during monocyte-to-macrophage differentiation through a novel LC3-independent pathway. **S. Laverdure, Z. Wang, K. Nagashima, H. Lane and T. Imamichi.** Leidos Biomed. Res., Inc., Frederick Natl. Lab. for Cancer Res. and NIAID, NIH. (164.7)
- 9:45 Identification of a conserved multi-lineage *I/9* enhancer. **B. Koh, A. A. Qayum, Y. Fu and M. Kaplan.** Indiana Univ. Sch. of Med. and Virginia Commonwealth Univ. (164.8)

67. T AND NKT DEVELOPMENT

Block Symposium

SUN. 8:00 AM—ROOM 16AB

CHAIRS: J. Alberola-Ila, J. Hagman

- 8:00 Catalase expression mediates redox regulation of autophagy and promiscuous gene expression in thymic stromal cells. **A. Hester, M. Semwall, Y. Xiao, A. Almutairi, S. Cepeda, T. Venables and A. Griffith.** Univ. of Texas Hlth. Sci. Ctr., San Antonio and Scripps Res. Inst. (165.4)
- 8:15 Control of T cell development and function by Protein Arginine Methyltransferase 5. **J. Hagman, C. Fleenor, T. Arends, A. Pandey, C. Abraham, C. Dege, D. Strain, T. Danhorn, R. Reinhardt, J. Espinosa and B. O'Connor.** Ctr. for Genes and Envrn. and Hlth. (165.5)
- 8:30 Two-photon imaging reveals distinct contributions of Aire⁺ medullary thymic epithelial cells and dendritic cell subsets to central tolerance induction. **L. Ehrlich, J. Lancaster and H. Thyagarajan.** Univ. of Texas, Austin. (165.19)
- 8:45 A critical epithelial survival axis regulated by MCL-1 maintains thymic function. **R. Jain, J. Sheridan, A. Policheni, M. Heinlein, L. Gandolfo, G. Dewson, G. Smyth, S. Sansom, N. Fu, J. Visvader, J. Mintern, I. Tan, G. Holländer, A. Strasser and D. Gray.** Walter and Eliza Hall Inst. of Med. Res., Australia, Fred Hutchinson Cancer Res. Ctr., Univ. of Oxford, United Kingdom and Bio21 Molec. Sci. and Biotechnology Inst., Australia. (165.2)
- 9:00 Revisiting the role of B7-CD28 co-stimulation in thymic negative selection: B7-CD28 co-stimulation enforces central tolerance by clonal deletion and Treg generation as independent cellular processes. **M. Watanabe and R. Hodes.** NCI, NIH. (165.1)
- 9:15 Lck activity regulates NKT subset development. **J. Alberola-Ila, H. Berrett and S. Henry.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr. (165.6)
- 9:30 The role CTCF and transcription in sculpting the TCR β repertoire. **V. Nganga, K. Majumder, B. Mishra, K. Kyle and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Univ. of Missouri. (165.14)
- 9:45 Newly generated CD4⁺ T cells acquire metabolic quiescence after thymic egress. **Q. Ge, S. Z. Peking Univ. Hlth. Sci. Ctr., China.** (165.7)

68. TREATMENT STRATEGIES IN SYSTEMIC AUTOIMMUNITY

Block Symposium

SUN. 8:00 AM—ROOM 18AB

CHAIRS: L. Morel, T. McGaha

- 8:00 Enforcing anergy of autoreactive B cells through inhibition of the PI3K pathway. **S. Franks, A. Getahun and J. Cambier.** Univ. of Colorado Sch. of Med. (175.1)

SUNDAY—AM

- 8:15 A(1-7) reduces pathologies associated with SLE in MRL-*lpr* mice. **M. Soto, K. Gaffney, Sachin Jadhav and K. Rodgers.** Univ. of Arizona Col. of Med. (175.2)
- 8:30 Targeting Dendritic Cells with Alpha 1 Antitrypsin has Therapeutic Potentials in Lupus. **A. Elshikha, Y. Yuan, Y. Lu, M-J. Chen, M. Akbar, H. Plate, L. Zeumer, L. Morel and S. Song.** Univ. of Florida. (175.3)
- 8:45 BTK inhibition ameliorates renal, skin, and brain disease in a spontaneous murine model of systemic lupus erythematosus. **S. Chalmers, J. Wen, J. Doerner, A. Stock, D. Webb, L. Herlitz, T. Bosanac, G. Nabozny, J. Fine, E. Klein, M. Ramanujam and C. Putterman.** Albert Einstein Col. of Med., Boehringer Ingelheim Pharmaceuticals, Inc. and Cleveland Clin. (175.4)
- 9:00 Sex hormones and gender influence the expression and function of regulatory T cells differentially in SLE patients. **R. Singh and B. Hahn.** VA Greater Los Angeles Healthcare Syst.-UCLA and Univ. of California, Los Angeles. (175.5)
- 9:15 Apoptotic cell induced, TLR9-dependent AhR activity is a critical driver of tolerance induction and suppression of lupus. **R. Shinde, K. Hezaveh, M. J. Halaby, A. Kloetgen, S. Lamorte, D. Munn, A. Tsigos, M. Madaio, S. Gabrielsson, J. Wither, D. De Carvalho and T. McGaha.** Princess Margaret Cancer Ctr., Canada, New York Univ. Sch. of Med, Canada, August Univ., New York Sch. of Med., Med. Col. of Georgia, Karolinska Inst., Swede, Krembil Res. Inst., Canada and Univ. Toronto, Canada. (175.6)
- 9:30 siRNA-mediated *c-Rel* knockdown ameliorates collagen-induced arthritis in mice. **Q. Ruan, T. Fan, F. Zhong, R. Liu, Y. Chen and T. Wang.** Shenzhen Inst. of Advanced Technol., Chinese Acad. of Sci., China, Univ. of Chinese Acad. of Sci., China, Perelman Sch. of Med., Univ. of Pennsylvania, Shandong Provincial Key Lab. of Ophthalmology, Shandong Eye Inst. and Shandong Acad. of Med. Sci., China. (175.7)
- 9:45 Protein Kinase D1 deletion ameliorates collagen-induced arthritis. **T. Yoon, H. Cho, J. Stuart and A-K. Yi.** Univ. of Tennessee Hlth. Sci. Ctr. and Veterans Affairs Med. Ctr.-Memphis. (175.8)
- 8:30 Anti-tumor immunity generated as an artifact of tumor implantation determines the response to immunotherapy in murine models. **M. Gough, L. Zebertavage, S Bambina, G. Kramer, D. Friedman, V. Troesch, T. Blair, J. Baird, A. Alice and M. Crittenden.** Earle A. Chiles Res. Inst., Providence Cancer Ctr., Oregon Hlth. and Sci. Univ. and Mayo Grad. Sch. (178.17)
- 8:45 IL-36γ promotes a local immune response via the formation of tertiary lymphoid structures in colorectal carcinoma. **A. Weinstein, L. Chen, N. Giraldo, F. Petitprez, L. Lacroix, E. Brzana, W. Fridman, C. Sautes-Fridman and W. Storkus.** Univ. of Pittsburgh Sch. of Med. and Natl Inst. of Hlth. and Med. Res. France, France. (178.21)
- 9:00 Isolation and analysis of plasma-derived exosomes in patients with glioblastoma. **L. C. Garcia, T. Peterson, M. Cepeda, H. Leong, A. Johnson and I. Parney.** Mayo Grad. Sch. and Mayo Clin. (178.37)
- 9:15 Platelet activation alters the immune landscape of the tumor microenvironment. **B. Riesenber, S. Rachidi, A. Metelli, J. Gutierrez, B. Liu and Z. Li.** Med. Univ. of South Carolina. (178.27)
- 9:30 Upregulating IL-15 in the tumor microenvironment promotes anti-tumor responses. **R. S. Carrero, F. Beceren-Braun, S. Rivas, S. Anthony and K. Schluns.** Univ. of Texas, Houston, Univ. of Texas MD Anderson Cancer Ctr. and Univ. of Iowa. (178.30)
- 9:45 A delicate interplay between adaptive and innate immunity caused by immunotherapy triggers tumor immunity and aseptic inflammation. **D. Hirschhorn, J. Ricca, B. Gasmi, O. DeHanau, L. Mangarin, S. Budhu, Y. Li, C. Cortez, C. Liu, R. Zappasodi, S. Houghton, A. Betof, M. Lacouture, T. Hollman, J. Albregues, M. Egeblad, J. Wolchok and T. Merghoub.** Memorial Sloan Kettering Cancer Ctr. and Cold Spring Harbor Lab. (178.42)

70. STRATEGIES FOR SUCCESSFUL POSTDOCTORAL TRAINING

Career Development Session

SUN. 9:00 AM—ROOM 10AB

CHAIR: C. Pinard

Postdoctoral training is the time to develop the research skills you will need to succeed as an independent scientist. It is, however, just as important to realize that you need to develop your professional skills to prepare you for your career path at the same time. This session will highlight ways of getting the most out of your postdoctoral training, relating successfully with your mentor, and understanding how to use the resources available to you to ensure that your training prepares you for the transition into the next phase of your career.

9:00 Introduction. **C. Pinard.** American Assn. of Immunologists.

9:05 Strategies for Successful Postdoctoral Training. **D. Brekken.** Univ. of Texas Southwestern Med. Ctr.

69. THE TUMOR MICROENVIRONMENT

Block Symposium

SUN. 8:00 AM—ROOM 17AB

CHAIRS: E. Davila, M. Gough

- 8:00 Cellular and molecular mechanisms regulating the development of tertiary lymphoid structures in tumor. **A. Rodriguez, J. D. Peske, A. Woods, M. Melssen, S. Cyranowski, G. Parriott and V. Engelhard.** Univ. of Virginia Sch. of Med. (178.10)
- 8:15 Tumor-resident macrophages modulate intestinal barrier function through sialylation of Mucin 1 in IBD and colitis-associated cancer. **S. Cascio, M. Kvorjak, J. A. Hashash, R. Sriram, D. Hartman, D. Binion and O. Finn.** Univ. of Pittsburgh Sch. of Med. and Carnegie Mellon Univ. (178.12)

71. NIH GRANT REVIEW AND FUNDING INFORMATION ROOM

Career Development Session

SUN. 9:30 AM—ROOM 14

NIH program and review staff will be available for individual conversations and consultations according to the schedule below. Staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

9:30 AM—10:30 AM

M. Humble. NIEHS
B. Hayden. CSR
H. Park. NIAMS

10:30 AM—11:30 AM

M. Humble. NIEHS
B. Hayden. CSR

11:30 AM—12:30 PM

A. Deckhut Augustine. NIAID
B. Hayden. CSR
M. Humble. NIEHS

72. TOWN HALL MEETING ON NIH EFFORTS TO FUND THE NEXT GENERATION: PROGRESS, CHALLENGES AND FUTURE DIRECTIONS

Committee-Sponsored Session

Sponsored by the AAI Committee on Public Affairs

SUN. 10:15 AM—ROOM 18AB

CHAIR: B.A. Garvy

The current funding environment has raised serious concerns about the long-term viability of the biomedical research enterprise, as securing NIH grants has become increasingly difficult for scientists early in their careers. To address this issue, NIH launched the Next Generation Researchers Initiative (NGRI) in June 2017 to increase support for meritorious Early Stage Investigators (ESIs) and Early Established Investigators (EEIs). Despite the Initiative's laudable goals, many questions remain, including how NIH Institutes and Ctr.s will reprioritize funds to support these early and mid-career investigators, and how it will impact those who are not targeted by the program. Speakers will discuss NIH implementation of the Initiative; provide a variety of perspectives on its progress, challenges, and future directions; answer audience questions; and listen to attendees' feedback.

- 10:15 The NIH NGRI: why it is needed and how it works.
L. Tabak. NIH.
- 10:55 The potential impact of the NGRI on training, hiring, promotion, tenure, and beyond. **G. Koretzky.** Weill Cornell Med. Col.
- 11:35 Perspectives of an early career investigator: will the NGRI alleviate the struggle to establish a research career? **J. Cannon.** Univ. of New Mexico Sch. of Med.

73. CHINESE SOCIETY OF IMMUNOLOGY, TAIWAN (CSIT) SYMPOSIUM: INFLAMMATION AND IMMUNITY

Guest Society Symposium

SUN. 10:15 AM—ROOM 16AB

CHAIRS: J. P-Y. Ting, K-I. Lin

- 10:15 O-GlcNAcylation in B cell immunity. **K. Lin.** Genomics Res. Ctr., Academia Sinica.
- 10:39 CLEC5A is a critical receptor in innate immunity against *Listeria* infection. **S-T. Chen.** Inst. of Clin. Med., Sch. of Med., Natl. Yang-Ming Univ.
- 11:03 Communications between macrophages and cancer cells during tumor progression. **M-H. Yang.** Inst. of Clin. Med., Sch. of Med., Natl. Yang-Ming Univ.
- 11:27 Resolution of inflammation in primary immunodeficiency: an example or an exception? **M-Z. Lai.** Inst. of Molec. Biol., Academia Sinica.
- 11:51 Essential role of STAT1 in B cell differentiation. **C. Lee.** Grad. Inst. of Immunology, Natl. Taiwan Univ. Col. of Med.

74. THE OBESITY SOCIETY (TOS) SYMPOSIUM: ABNORMAL METABOLISM AND INFLAMMATION AS DRIVING MECHANISMS IN BREAST CANCER

Guest Society Symposium

SUN. 10:15 AM—ROOM 18CD

CHAIRS: G.V. Denis, N.M. Iyengar

- 10:15 Inflammation and abnormal metabolism in breast cancer progression. **A. Rangarajan.** Indian Inst. of Sci.
- 10:45 Bidirectional cross-talk between breast cancer and tumor-surrounding adipocytes in breast cancer progression. **C. Muller.** Institut de Pharmacologie et de Biologie Structurale.
- 11:15 BET bromodomain proteins regulate cytokine drivers of breast cancer metastasis. **G. Andrieu.** Boston Univ. Sch. of Med.
- 11:45 Obesity and mechanisms of breast cancer metastasis. **D. Quail.** McGill Univ. Cancer Ctr.

**Pease remember to silence your
cell phones in sessions.**

75. INTERVIEWING FOR A JOB**Career Development Session**

Supported in part by a grant to the Federation of American Societies for Exptl. Biol. (FASEB) from the Natl. Inst. of Gen. Med. Sci. (NIGMS), Natl. Inst. of Hlth. [FASEB MARC Program: T36-GM008637-21NCE]

SUN. 10:15 AM—ROOM 10AB

CHAIR: M.T. Litzinger

This session will be focused on tips and techniques to help you successfully navigate the interview process. Emphasis will be on how you can present yourself in the best possible light. You will also learn how to respond to unexpected questions. This session is open to anyone but is especially intended for student and postdoctoral attendees.

- 10:15 Introduction. **M. Litzinger**. American Assn. of Immunologists.
 10:20 **D. Haseltine**. Career Develop. Ctr., Baylor Col. of Med.

76. INNATE IMMUNE SENSING AND SIGNALING**Block Symposium**

SUN. 10:15 AM—ROOM 12AB

CHAIRS: L. Lenz, T. Billar

- 10:15 NOD2-mediated downregulation of the TLR pathways contributes to protection against colitis and colorectal tumorigenesis. **S. M. Udden, L. Peng and H. Zaki**. Univ. of Texas Southwestern Med. Ctr. (169.1)
 10:30 RNA editing is required for innate immune homeostasis through inhibiting cytosolic RNA receptor MDA-5 activated by cellular endogenous RNAs. **Q. Wang, X. Li, R. Qi, W. Zhang, P. Zheng and T. Billiar**. Univ. of Pittsburgh Sch. of Med., Henan Provincial People's Hosp., China, Zhengzhou Univ. 5th Hosp., China and Univ. of Pittsburgh Med. Ctr. (169.3)
 10:45 Type I and II IFNs differentially regulate IFNGR1 to tune IFN γ responsiveness in myeloid cells. **W. Crisler, E. Eshleman and L. Lenz**. Univ. of Colorado Sch. of Med. (169.7)
 11:00 TRIM29 suppresses the innate immune response to RNA virus. **J. Xing, A. Zhang, L. Minze, X. C. Li and Z. Zhang**. Houston Methodist Res. Inst. and Sun Yat-sen Univ. Cancer Ctr., China. (169.10)
 11:15 CX43 is essential for optimal cGAS function during cytosolic DNA-sensing. **U. Nagarajan, Y. Zhang, W. Bodnar, A. Kiatthanapaiboon, R. Hagan, C. O'Connell and M. Tripathy** Univ. of North Carolina, Chapel Hill. (169.13)
 11:30 LRRK2 is required for macrophage homeostasis and the control of type I IFN. **C. Weindel, S. Bell, K. Vail, A. West, K. Patrick and R. Watson**. Texas A&M Hlth. Sci. Ctr. (169.16)
 11:45 Differential signaling through TLR7 or TLR8 determines the phenotype of human monocytes during RNA virus infection. **M. Dominguez-Villar, M. de Marcken and K. Dhaliwal**. Yale Sch. of Med. and Yale Univ. (169.6)

- 12:00 PAMP-induced monoubiquitination of PRR-associated kinase BIK1 by an E3 ligase LUCKY positively regulates plant innate immunity. **X. Ma, J. Peng, L. Shan and P. He**. Texas A&M Univ. and St. Jude Children's Res. Hosp. (169.9)

77. IMMUNOMETABOLISM IN TUMOR IMMUNITY AND IMMUNOTHERAPY**Block Symposium**

SUN. 10:15 AM—ROOM 17AB

CHAIR: E.L. Stone, J. Rathmell

- 10:15 The metabolic basis of resistance to Adoptive T Cell Therapy (ACT) in patients with solid tumors. **W. Peng, T. Cascone, J. McKenzie, R. Mbofung, S. Punt, Z. Wang, C. Xu, L. Williams, Z. Wang, C. Bristow, A. Carugo, M. Peoples, L. Li, T. Karpinetz, L. Huang, S. Malu, C. Creasy, S. Leahey, J. Chen, C. Bernatchez, V. Gopal, T. Heffernan, J. Hu, J. Wang, R. Amaria, I. Wistuba, S. Woodman, J. Roszik, E. Davis, M. Davies, J. Heymach, P. Hwu** MD Anderson Cancer Ctr. (177.1)
 10:30 The Force Awakens: illuminating the role of kynurenine in cancer progression and treatment. **N. Ashoura, J. Dekker, T. Triplett, K. Garrison, J. Blazek, C. Karamitros, C. Lamb, Y. Tanno, L. Ehrlich, M. Zhang, M. Manfredi, E. Stone and G. Georgiou**. Univ. of Texas, Austin and Kyn Therapeutics. (177.3)
 10:45 Nicotinamide adenine dinucleotide (NAD) oxidation preserves T cell function under lactic acidosis characteristic of the tumor microenvironment (TME). **U. Beier, W. Quinn, J. Jiao, T. TeSlaa, J. Stadanlick, W. Hancock, E. Eruslanov, J. Rabinowitz and J. Baur**. Children's Hosp. of Philadelphia, Univ. of Pennsylvania and Univ. of Princeton. (177.4)
 11:00 Interaction between Kynurenine and the AhR is an effector mechanism of tumor immunosuppression and represents a potential immunotherapy target. **L. F. Campesato, S. Budhu, J. Tchaicha, S. Pourpe, C. Liu, M. Manfredi, K. McGovern, J. Wolchok and T. Merghoub**. Mem. Sloan Kettering Cancer Ctr. and Kyn Therapeutics. (177.5)
 11:15 Rapamycin prevents surgery-induced T cell exhaustion in patients with bladder cancer. **R. Svatek, N. Ji, N. Mukherjee, E. de Leon, A. Kabra, V. Hurez, M. Nicolas, J. Michalek, M. Javors, C. Livi, Z. Sharp and T. Curiel**. Univ. of Texas Hlth. Sci. Ctr., San Antonio (177.8)
 11:30 Selective knockdown of A_{2A}R in CD8⁺ T cells using CD8-targeting nanoliposomes. **H. Newton, M. Arnold, A. Chimote and L. Conforti**. Univ. of Cincinnati. (177.14)
 11:45 T cell co-stimulation reprograms the metabolic fitness of highly differentiated CD8⁺ T cells for improved adoptive T-cell therapy. **A. Srivastava, B. Paria, S. Chandran and U. Kammula**. Univ. of Pittsburgh, NCI, NIH and Mem. Sloan Kettering Cancer Ctr. (177.20)

78. B CELL AND CD4 T CELL RESPONSES DURING A VIRUS INFECTION

Block Symposium

SUN. 10:15 AM—ROOM 19AB

CHAIRS: J.L. Hurwitz, M. Santiago

- 10:15 Virus-specific B cells/T cells and factors that perturb adaptive immunity. **J. Hurwitz**. St. Jude Children's Res. Hosp.
- 10:30 Determinants of T follicular helper cell development upon viral infections. **M. Kuka, M. De Giovanni, Carmela Maganuco, V. Cutillo, C. Cristofani, P. Di Lucia, E. Bono, L. Giustini and M. Iannacone**. Università Vita-Salute San Raffaele, Italy and San Raffaele Scientific Inst., Italy. (182.1)
- 10:45 Ectromelia-encoded protein B22 restricts CD4+ T cell activation. **K. Forsyth, D. Fisher, A. Hersperger and L. Eisenlohr**. Perelman Sch. of Med., Univ. of Pennsylvania, Albricht Col. and Children's Hosp. of Philadelphia. (182.2)
- 11:00 Defining the mechanisms responsible for the induction of cytotoxic CD4 T cell responses during viral infection. **C. Knudson, D. Kappes and L. Sigal**. Thomas Jefferson Univ. and Fox Chase Cancer Ctr. (182.3)
- 11:15 Establishing the HIV reservoir: HIV-susceptible cells and the signals that recruit them. **T. Packard, X. Luo, Z. Grimmitt, E. Herzig, N. Roan and W. Greene**. Gladstone Inst. of Virology & Immunology and Univ. of California, San Francisco. (182.4)
- 11:30 Enhanced immunoglobulin somatic hypermutation in human APOBEC3 transgenic mice. **S. Jones, K. Guo, B. Barrett and M. Santiago**. Univ. of Colorado, Denver. (182.5)
- 11:45 Not just showboating: Shp1 may keep B cells afloat during gammaherpesvirus infection. **K. Johnson, W. Mboko, P. Lange and V. Tarakanova**. Med. Col. of Wisconsin. (182.6)

- 12:00 Mechanisms of Zika virus antibody neutralization. **H. Zhao, J. Crowe, Michael Diamond and D. Fremont**. Washington Univ. in St. Louis and Vanderbilt Univ. Med. Ctr. (182.7)

79. CAREERS IN SCIENCE ROUNDTABLE

Career Development Session

Sponsored by the AAI Education Committee and AAI Committee on the Status of Women

SUN. 12:00 PM—BALLROOM BC

CHAIR: L.A. Solt

Registration Fee: \$30 (Lunch included.) At this popular session, attendees will have the opportunity to meet with experienced scientists to explore specific career issues important to men and women in science today. Gain insights into issues you are confronting in your own careers. Topics include international opportunities in science, succeeding in graduate school, participating in NIH Study Sections, considerations for scientists in M.D.-Ph.D. careers, and exciting careers outside of the bench. There are also table discussions on navigating work-life issues such as balancing careers with family and transitioning from specific career stages that may be relevant to any work environment (academic research, biotech industry, governmental agencies, non-profit). Don't miss this great networking opportunity!

Table discussion topics:

- Research Careers in Academia
 - Succeeding in Graduate School
 - Graduate Student to Postdoc: finding a postdoc, interviewing
 - Postdoc to PI
 - Government Research Institutions
 - Medical Schools
 - Undergraduate Institutions
 - New PI
 - Recruiting Students and Postdocs
 - Preparing for Promotion
 - Negotiating an Academic Position
 - Mentoring Effectively
 - How to Build a Network for Postdocs
 - Networking Skills for PIs
- Career and Family: balancing parenthood and career; the dual career couple
- Careers in Biotech and Industry: moving from academia to industry and vice versa
- Careers at Governmental Agencies
- NIH Study Section Insights
 - Grant Writing for Fellowships/Transition Awards
 - Grant Writing for PIs
- The Physician Scientist: balancing clinical and research duties
- Research from the M.D., Ph.D. Perspective
- Non-Research Careers for Scientists: careers enabling scientists to advance the field away from the bench
 - Scientific Publishing
 - Opportunities for Scientists in Foundations/Non-profits
 - Careers in Science Policy
- International Opportunities in Science



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SUNDAY AFTERNOON

MAY 6

80. AAI-BIOLEGEND HERZENBERG AWARD PRESENTATION AND LECTURE**Awards Lecture***Generously supported by BioLegend*

SUN. 12:30 PM—ROOM 10AB

CHAIR: W.M. Yokoyama

- 12:30 Introduction and Award Presentation. **W.M. Yokoyama**. Washington Univ. Sch. of Med. in St. Louis, AAI President; and **G. Lay**. Biolegend.
- 12:35 Deciphering the guidance cue code for B cell immunity. **J. Cyster**. HHMI, Univ. of California, San Francisco.

81. WRITING SCIENTIFIC MANUSCRIPTS AND RESPONDING TO REVIEWERS: TIPS ON NAVIGATING THE PROCESS**Committee-Sponsored Session***Sponsored by the AAI Publications Committee*

SUN. 12:30 PM—ROOM 16AB

CHAIRS: B.D. Evavold, P.J. Fink

In this session sponsored by the AAI Publications Committee, experienced editors will provide valuable insights to the processes of preparing a manuscript and responding to reviewers' comments.

- 12:30 Advice on writing a scientific manuscript. **B. Evavold**. Univ. of Utah.
- 1:10 You just received the reviews of your manuscript: how do you respond? **S. Ostrand-Rosenberg**. Univ. of Maryland, Baltimore County.
- 1:50 Ethics in publishing: how to keep to the straight and narrow. **P. Fink**. Univ. of Washington Sch. of Med.

82. NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (NIEHS) SYMPOSIUM: NOVEL FINDINGS AND NEXT STEPS CONCERNING NANOMATERIAL EXPOSURES ON THE IMMUNE SYST.**NIH-Sponsored Session**

SUN. 12:30 PM—ROOM 12AB

CHAIRS: M.C. Humble, A. Holian

- 12:30 Understanding mast cell activation in the development of safe nanotechnologies. **J. Brown**. Univ. of Colorado, Denver.
- 1:00 Immunomodulatory effects of nanoparticles in a mouse model of skin and allergy. **L. DeLouise**. Univ. of Rochester.

- 1:30 Nanomaterials accelerate systemic autoimmune disease in lupus-prone New Zealand mixed mice. **A. Holian**. Univ. of Montana.
- 2:00 Nano environmental health and safety research: where are we now? **S. Nadadur**. NIEHS, NIH.

83. INTERNATIONAL COMPLEMENT SOCIETY (ICS): NEW DISCOVERIES IN COMPLEMENT: IMPACT ON HEALTH AND DISEASE**Guest Society Symposium**

SUN. 12:30 PM—ROOM 19AB

CHAIRS: V.P. Ferreira, R. Wetsel

- 12:30 C1q as an immune modulator of pro-inflammatory pathways. **B. Diamond**. Feinstein Ins. For Med. Res.
- 1:00 Intracellular complement is required for basic physiological processes in immune cells. **C. Kemper**. NIH.
- 1:30 Cancer and complement therapeutics: molecular structure to treatment regimens. **R. Taylor**. Univ. of Virginia.
- 2:00 CD21 blockade of neurological symptoms of lupus. **M. Carroll**. Harvard Med. Sch.

84. NIH GRANT REVIEW AND FUNDING INFORMATION ROOM**Career Development Session**

SUN. 1:30 PM—ROOM 14

NIH program and review staff will be available for individual conversations and consultations according to the schedule below. Staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

1:30 PM—2:30 PM

D. Hodge. CSR
R. Fuldner. NIA
J. Liu. NIAID

2:30 PM—3:30 PM

D. Hodge. CSR
T. McIntyre. CSR
R. Fuldner. NIA
J. Liu. NIAID

3:30 PM—4:30 PM

M. Humble. NIEHS
T. McIntyre. CSR
R. Agarwal. ORWH

4:30 PM—5:30 PM

M. Humble. NIEHS
M. Mancini. NIAMS
S.Y. Mao. NIAMS

85. BASIC AUTOIMMUNITY: ROLE OF T CELLS**Block Symposium**

SUN. 12:30 PM—ROOM 18CD

CHAIRS: N. Karandikar, E. Unanue

- 12:30 OX40 signaling Induces Canonical Antigen Presentation-independent Proliferation of Human and Murine Thymic Regulatory T-cells. **P. Kumar, A. Marinelarena, P. Bhattacharya, A. Epstein and B. Prabhakar.** Univ. of Illinois, Chicago and Univ. of Southern California Keck Sch. of Med. (163.11)
- 12:45 Islet-infiltrating effector and regulatory T cells specific for a single epitope possess distinct, but overlapping TCR repertoires. **Y. Jing, Y. Kong, M. Bettini and M. Bettini.** Texas Children's Hosp., Baylor Col. of Med. and Baylor Col. of Med., McNair Med. Inst. (163.16)
- 1:00 Targeting transcription cofactor OCA-B specifically blocks pancreatic T cell infiltration, cytokine production and elevated glucose in the NOD mouse model of type-1 diabetes (T1D). **D. Tantin and H. Kim.** Univ. of Utah Sch. of Med. (163.5)
- 1:15 Systemic recognition of immunogenic insulin peptides promotes T cell diabetic autoimmunity in multiple lymphoid tissues. **X. Wan, B. Zinselmeyer, P. Zakharov, A. Vomund, H. Hu, C. Lichti and E. Unanue** Washington Univ. in St. Louis and Washington Univ. Sch. of Med. in St. Louis. (163.8)
- 1:30 Dock8-Positive CD4 T cell as autoantibody-inducing CD4 T (*ai*CD4 T) cell that causes systemic Lupus Erythematosus (SLE): proof of concept of self-organized criticality theory as the cause of SLE. **S. Shiozawa, K. Tsumiyama, Y. Miyazaki, K. Sakurai and M. Miyazawa.** Inst. for Rheumatic Dis., Japan, Kyushu Univ. Hosp., Beppu, Japan and Kinki Univ. Med. Sch., Japan. (163.12)
- 1:45 Neuroantigen-specific CD8 T cells inhibit ongoing demyelinating disease by autoregulating CD4 T cell responses using temporally distinct IFN γ and perforin-dependent mechanisms. **A. Boyden, A. Brate and N. Karandikar.** Univ. of Iowa. (163.2)
- 2:00 TFH-like cells promote TH17-induced neuroinflammation. **J. Quinn, G. Kumar, A. Agasing, R. Ko and R. Axtell.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr. (163.18)
- 2:15 Cell-specific metabolic models reveal novel metabolic regulators of Th17 pathogenicity: from single-cell RNA-Seq to actionable metabolic targets. **A. Wagner, C. Wang, D. DeTomaso, A. Koul, A. Regev, V. Kuchroo and N. Yosef.** Univ. of California, Berkeley, Broad Inst. of MIT and Harvard, Howard Hughes Med. Inst., Massachusetts Inst. of Technol. and Harvard Med. Sch. (163.21)

86. IMMUNE MEMORY AND AGING**Block Symposium**

SUN. 12:30 PM—ROOM 17AB

CHAIRS: B. Blomberg, S. Hamilton

- 12:30 Regulation of human B cell function in aging: contribution of SASP (senescence-associated secretory phenotype) markers. **B. Blomberg, A. Diaz, M. Romero and D. Frasca.** Univ. of Miami Miller Sch. of Med. (51.1)
- 12:45 CD28 Induces Mitochondrial Respiration Dependent Reactive Oxygen Species (ROS) Signaling for Metabolic Fitness and Survival in Long-Lived Plasma Cells. **A. Utley, J. Cooper, C. Chavel, P. Peng, L. Carlson, S. Lightman, T. Kambayashi, J. Green and K. Lee.** Roswell Park Cancer Inst., Univ. of Pennsylvania and Washington Univ. (51.2)
- 1:00 The long chain fatty acid transporter, MFSD2A, is essential for memory CD8⁺ T cell formation and maintenance. **A. Piccirillo, W. Hawse, H. Buechel, D. Silver and L. D'Cruz.** Univ. of Pittsburgh and Duke-NUS Med. Sch., Singapore. (51.3)
- 1:15 Defining the role of CD69 in the formation of resident memory CD8⁺ T cells. **D. Walsh, H.B. da Silva, L. Beura, E. Breed, R. Ruscher, C. Peng, S. Hamilton, D. Masopust and S. Jameson.** Univ. of Minnesota. (51.4)
- 1:30 Antigen recognition by CD8⁺ T cells in non-lymphoid tissues initiates a transcriptional program of tissue-resident memory differentiation. **S. Hobbs, J. Nolz.** Oregon Hlth. and Sci. Univ. (51.5)
- 1:45 Complement controls antiviral CD8⁺ T cell memory development and function. **K. Jhun, V. van der Heide, P. Heeger and D. Homann.** Icahn Sch. of Med., Mount Sinai. (51.6)
- 2:00 Interleukin-1 and IL-23 induce innate-like immune responses by bystander-activated memory CD4⁺ T cells contributing to the autoimmune pathogenesis. **H. Lee, J-U. Lee, I. Kang and J-M. Choi.** Hanyang Univ., South Korea and Yale Univ. (51.7)
- 2:15 CD45RB Status Defines TCR Priming Affinity and CD8⁺ T Cell Memory Persistence. **S. Krummey, J. Jacobs, H. Kissick, B. Evavold and M. Ford.** Emory Univ. Sch. of Med. and Univ. of Utah Sch. of Med. (51.8)

87. CELL THERAPY**Block Symposium**

SUN. 12:30 PM—ROOM BALLROOM EFG

CHAIRS: M. Krogsgaard, M. Terabe

- 12:30 High-Throughput Characterization of Synthetic Costimulatory Domains for Chimeric Antigen Receptors. **D. Goodman, E. Park, K. Kearns, A. Marson, K. Roybal and J. Bluestone.** Univ. of California, San Francisco. (179.4)
- 12:45 Identification of novel α -fetoprotein-specific T cell receptors to redirect human T cells for hepatocellular carcinoma immunotherapy. **Y. He, W. Zhu, Y. Peng, L. Wang, Y. Hong, X. Jiang, Q. Li, H. Liu, L. Huang, J. Wu, E. Celis, T. Merchen and E. Kruse.** Augusta Univ. (179.1)

SUNDAY—PM

- 1:00 A novel and easy-to-use approach for assessment of chimeric antigen receptor (CAR) modified immune cell cytotoxicity. **W. Xiong, N. Weber and D. Liu.** Houston Methodist Res. Inst. (179.5)
- 1:15 Generating suppression-resistant natural killer cells as an enhanced immunotherapeutic for neuroblastoma. **R. Burga, E. Williams, E. Yvon, R. Fernandes, C. Russell Y. Cruz and C. Bollard.** Children's Natl. Hlth. Syst. and George Washington Univ. (179.6)
- 1:30 Targeting HLA-E for prostate cancer immunotherapy. **K. Frueh, M. Verweij, S. Hansen, M. Mansouri, S. Nair, D. Malouli, A. Tewari, L. Uebelhoer, A. Ventura, A. Selseth, M. Axthelm, N. Bhardwaj and L. Picker.** Oregon Hlth. and Sci. Univ. and Icahn Sch. of Med., Mount Sinai. (179.8)
- 1:45 SphK1/S1P Axis Regulate PPAR γ Levels to Program Metabolically Fit Anti-Tumor T Cells. **P. Chakraborty, K. Thyagarajan, Sh. Chatterjee, S. P. Selvam, B. Ogretmen and S. Mehrotra.** Med. Univ. of South Carolina. (179.9)
- 2:00 Cheating death: a Fas-41BB immunomodulatory fusion protein obviates a death signal to enhance T cell function and adoptive therapy targeting leukemia and solid tumors. **S. Oda, K. Anderson, N. Garcia, P. Ravikumar, A. Daman, P. Bonson and P. Greenberg.** Fred Hutchinson Cancer Res. Ctr., Weill Cornell Grad. Sch. of Med. Sci. and Univ. of Washington. (179.11)
- 2:15 Selective TRAF over-expression enhances CD19-targeted 41BB CAR T function by increasing NF- κ B. **G. Li, J. Boucher, H. Kotani, Y. Zhang, B. Shrestha, B. Yu and M. Davila.** H. Lee Moffitt Cancer Ctr. and Res. Inst. (179.10)
- 88. MYELOID CELLS, ANTIGEN PRESENTATION, AND REGULATORY FACTORS DURING VIRUS INFECTIONS**
Block Symposium
SUN. 12:30 PM—ROOM 18AB
CHAIRS: S. Kovats, S.M. Varga
- 12:30 IFN-lambda regulates dendritic cell function to mediate protective immunity against influenza A virus infection. **E. Hemann, R. Green, R. Langlois, R. Savan and M. Gale.** Univ. of Washington and Univ. of Minnesota Med. Sch. (183.4)
- 12:45 Reciprocal regulation of lung resident alveolar macrophage function and repopulation by β -catenin and PPAR- γ dictates host morbidity and tissue recovery from respiratory viral infection. **B. Zhu, S. Huang, L. Jiang, R. Zhang and J. Sun.** Mayo Clin. (183.6)
- 1:00 Dendritic cell intrinsic IRF4 expression regulates production of regulatory cytokines during influenza virus infection. **I. Hatipoglu, E. Ainsua-Enrich, S. Kadel, S. Turner, S. Singh and S. Kovats.** Oklahoma Med. Res. Fndn. (183.3)
- 1:15 T cells Protect the Brain from a Nasal Virus Infection by Engaging Local Myeloid Cells that Cross-Present Antigen. **E. A. Moseman, A. Ciesinski and D. McGavern.** NINDS, NIH. (183.2)
- 1:30 Investigation of the immunological mechanisms underlying the attenuation of vaccinia virus lacking host-range factor C7. **L. Deng, N. Yang, P. Dai, Y. Wang, W. Wang, T. Merghoub, J. Wolchok and S. Shuman.** Mem. Sloan Kettering Cancer Ctr. (183.8)
- 1:45 Eastern equine encephalitis virus evades induction of the host immune response through miR-142-3p restriction of myeloid cell replication. **D. Trobaugh, C. Sun and W. Klimstra.** Univ. of Pittsburgh Sch. of Med. (183.7)
- 2:00 Plasmacytoid dendritic cells prime anti-viral T cells during acute HIV-1 infection but deplete and impair anti-viral T cells during chronic HIV-1 infection. **G. Li, J. Ma, L. Cheng, L. Zhang and L. Su.** Univ. of North Carolina, Chapel Hill, and Chinese Acad. of Sci., China. (183.5)
- 2:15 Autoimmune Risk Allele of *PTPN22* influences early events post viral infection. **R. Willenbring, I. Pratumchai, K. Marquardt, K. Mowen, J. Teijaro and L. Sherman.** Scripps Res. Inst. and Leiden Univ. Med. Ctr., Netherlands. (183.1)
- 89. NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASE (NIAID) SYMPOSIUM: MATERNAL EFFECTS ON FETAL IMMUNITY**
NIH-Sponsored Session
SUN. 3:45 PM—ROOM 16AB
CHAIRS: A. Deckhut Augustine, G. Mor
- 3:45 Mechanism of immune regulation by the placenta. **G. Mor.** Yale Univ.
- 4:15 How antigen presentation by the nonclassical MHC, HLA-F, modulates its interactions with NK receptors. **E. Adams.** Univ. of Chicago.
- 4:45 Expansion of CD38-expressing NK cells with enhanced antiviral activity during pregnancy. **C. Blish.** Stanford Univ.
- 5:15 Maternal and fetal T cell activation during preterm labor. **T. MacKenzie.** Univ. of California, San Francisco.
- 90. CHINESE SOCIETY FOR IMMUNOLOGY (CSI) SYMPOSIUM: THE REGULATORY FUNCTION OF INNATE LYMPHOID CELLS AND T-CELLS**
Guest Society Symposium
SUN. 3:45 PM—ROOM 10AB
CHAIRS: B. Sun, L. Berg
- 3:45 The transcriptional coactivator TAZ regulates the Treg/Th17 balance. **L. Chen.** Sch. of Life Sci., Xiamen Univ.
- 4:15 Histone deacetylase SIRT1 negatively regulates the differentiation of IL-9-producing CD4+ T cells. **G. Liu.** Beijing Normal Univ.
- 4:45 The contribution of IL-17 receptor signaling components to psoriasis development. **X. Lin.** Sch. of Med. and Tsinghua Univ.
- 5:15 Low dose interleukin-2 treatment selectively modulates CD4+ cells subsets in patients with systemic lupus erythematosus. **Z. Li.** Beijing Univ.

91. HUMAN HOST DEFENSE

Block Symposium

SUN. 3:45 PM—ROOM 17AB

CHAIRS: P. Loke, S. Pahwa

- 3:45 Heterogeneity of plaque macrophages derived from CX3CR1+ monocyte precursors in atherosclerosis progression and regression at a single-cell level. **J.-D. Lin, H. Nishi, J. Poles, C. Mccauley, K. Rahman, A. Hine, N. Vozhilla, E. Fisher and P. Loke.** New York Univ. Sch. of Med. (166.39)
- 4:00 Epigenetic Regulation of the COX-2/PGE2 Pathway in Macrophages Results in Impaired Wound Healing in Diabetes. **F. Davis, A. Joshi, A. Kimball, A. den Dekker, M. Schaller, C. Wilke, B. Moore and K. Gallagher.** Univ. of Michigan. (166.48)
- 4:15 Abnormal T follicular helper cell subsets in Chronic Lymphocytic Leukemia. **A. Marshall, C. Zhang, S. Hou and X. Wu.** Univ. of Manitoba, Canada. (166.28)
- 4:30 Infantile-onset primary alveolar proteinosis with hypogammaglobulinemia caused by heterozygous mutations of 2'-5'-oligoadenylate synthase. **T. Okano, K. Cho, S. Kawamura, N. Onai, W. Fujii, S. Kakuta, M. Kanai-Azuma, T. Ohteki, K. Imai, H. Kanegane, M. Otsu, T. Ariga and T. Morio.** Tokyo Med. and Dent. Univ., Japan, Hokkaido Univ., Japan and Univ. of Tokyo, Japan. (166.17)
- 4:45 Time of ART initiation in perinatally HIV-infected children impacts on HIV-specific T cell functionality. **S. Rinaldi, N. Cotugno, S. Pallikkuth, R. Pahwa, P. Palma and S. Pahwa.** Univ. of Miami Miller Sch. of Med. and Bambino Gesù Children's Hosp., Italy. (166.1)
- 5:00 Single cell analyses of human antibody responses to *Vibrio cholerae*. **R. Kauffman, T. Bhuiyan, O. Adekunle, E. Ryan, F. Qadri, J. Harris and J. Wrammert.** Emory Univ., ICDDR'b, Bangladesh, Harvard Univ. and Emory Univ. Sch. of Med. (166.10)
- 5:15 Multidimensional phenotypic immune profiling of *Chlamydia trachomatis* infected women using mass cytometry platform. **A. Kollipara, M. Iannone, T. Poston, D. Lee, C. O'Connell, X. Zheng, S. Hillier, H. Wiesenfeld and T. Darville.** Univ. of North Carolina at Chapel Hill, Natl. Inst. of Environ. Hlth. Sci. and Univ. of Pittsburgh. (166.16)
- 5:30 Spatial map of human B cell compartmentalization. **L. Borghesi, N. Weisel, A. Liu and M. Shlomchik.** Univ. of Pittsburgh Sch. of Med. (166.31)

92. METABOLISM AND MOLECULAR IMMUNOLOGY

Block Symposium

SUN. 3:45 PM—ROOM 19AB

CHAIRS: R. Stephens, K. Yang

- 3:45 Early Inhibition of Fatty Acid Synthesis Reduces Generation of Memory Precursor Effector T cells in Chronic Infection. **S. Ibitokou, B. Dillon, M. Sinha, B. Szczesny, A. Delgadillo, D. R. Abdelrahman, C. Szabo, L. A-E. C. Porter, D. Tuvdendorj and R. Stephens.** Univ. of Texas Med. Br. and Baylor Col. of Med. (167.1)
- 4:00 Regulation of NKT cell metabolism by PLZF. **A. Kumar, K. Pyaram, E. Yarosz, S. Giri and C-H. Chang.** Univ. of Michigan and Henry Ford Hlth. Sys. (167.2)
- 4:15 The role and regulation of cell-intrinsic glycogen metabolism in dendritic cell immune responses. **P. Thwe, L. Pelgrom, R. Cooper, S. Beauchamp, J. Reisz, A. D'Alessandro, B. Everts and E. Amiel.** Univ. of Vermont, Leiden Univ. Med. Ctr., Netherlands and Univ. of Colorado, Denver. (167.5)
- 4:30 Tristetraprolin family of RNA binding proteins post-transcriptionally regulate inflammation and metabolic responses in the liver. **S. Patial and P. Blackshear.** Louisiana State Univ. and Natl. Inst. of Environ. Hlth. Sci. (167.6)
- 4:45 Metabolomics analysis reveals differential T cell serine metabolism as a target in autoimmunity. **G. Andrejeva, M. Wolf, M. Johnson, A. Rutledge, G. Codreanu, S. Sherrod, D. Gutierrez, K. Rose, J. Norris, K. Schey, J. McLean and J. Rathmell.** Vanderbilt Univ. Med. Ctr. and Vanderbilt Univ. (167.7)
- 5:00 Purine nucleotide metabolism regulates expression of human MICA. **C. O'Callaghan, M. McCarthy, G. Moncayo, T. Hiron, N. Jakobsen, A. Valli, T. Soga and J. Adam.** Univ. of Oxford, United Kingdom and Keio Univ., Japan. (167.12)
- 5:15 Cereblon tunes c-Myc protein expression and regulates the metabolic function of activated T cells. **P. Epling-Burnette, R. Hesterberg, A. Akuffo, M. Beatty, W. Goodheart, M. Fernandez and J. Cleveland.** H. Lee Moffitt Cancer Ctr. and Res. Inst. (167.13)
- 5:30 Sirt1-mediated metabolic modulation of *Aicda*, class-switch DNA recombination and somatic hypermutation. **H. Gan, T. shen, H. Sanchez, Z. Xu, H. Zan and P. Casali.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, Second Xiangya Hosp. and Central South Univ., China. (167.14)

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93. LYMPHOCYTE ACTIVATION, DIFFERENTIATION, AND REGULATION

Block Symposium

SUN. 3:45 PM—ROOM 12AB

CHAIRS: J. Boss, G. Doody

- 3:45 Defining the mechanism of BATF specificity in Th cell lineages. **Y. Fu and M. Kaplan.** Indiana Univ. Sch. of Med. (171.8)
- 4:00 Negative costimulation constrains T cell differentiation. **S. Wei, R. Sharma, N-A. Anang, J. Levine, Y. Zhao, J. Wang, D. Pe'er and J. Allison.** Univ. of Texas, MD Anderson Cancer Ctr. and Mem. Sloan Kettering Cancer Ctr. (171.17)
- 4:15 Foreign antigen-specific Foxp3⁺ regulatory T cells expand with immunization and limit Th1 polarization by Foxp3⁻ conventional cells specific for the same antigen. **P. Krueger and M. Jenkins.** Univ. of Minnesota. (171.1)
- 4:30 TCR affinity influences helper T cell differentiation by biasing dendritic cell interactions. **D. Kotov, J. Mitchell, T. Pengo, J. Kotov, C. Ruedl, S. S. Way, R. Langlois, B. Fife and M. Jenkins.** Univ. of Minnesota, Nanyang Technological Univ., Singapore, Cincinnati Children's Hosp. Med. Ctr. and Univ. of Minnesota Med. Sch. (171.2)
- 4:45 Antigen binding to B cells activates a metabolic program that in the absence of a second signal leads to mitochondrial dysfunction and cell death. **M. Akkaya, A. Roesler, J. Traba, P. Miozzo, B. Akkaya, B. Theall, H. Sohn, M. Pena, M. Sack, S. Pierce.** NIAID, NIH and NHLBI, NIH. (171.4)
- 5:00 Salt-Inducible kinases are critical regulators of terminal B-cell differentiation. **E. Robinson, M. Care, R. Tooze and G. Doody.** Univ. of Leeds, United Kingdom. (171.3)
- 5:15 Progressive upregulation of oxidative metabolism facilitates plasmablast differentiation to a T-independent antigen. **M. Price, D. Patterson, C. Scharer and J. Boss.** Emory Univ. and Emory Univ. Sch. of Med. (171.5)
- 5:30 The impact of target stiffness on NK cell activation. **D. Friedman, A. Hale, M. White and D. Davis.** Univ. of Manchester, United Kingdom (111.5)

94. INFLAMMATORY MEDIATORS AT MUCOSAL SURFACES

Block Symposium

SUN. 3:45 PM—ROOM 18CD

CHAIRS: M. Kronenberg, S. Vaishnav

- 3:45 The TNF superfamily cytokine receptor DR3 modulates innate immune responses in the gut and protects against IBD. **F. Meylan, T. Farley, A. Richard, N. Richo, M. Geuking, I. Fuss, K. McCoy and R. Siegel.** NIAMS, NIH, Univ. of Calgary, Canada and NIAID, NIH. (172.1)

- 4:00 Lymphotoxin receptor beta expression by neutrophils is a critical regulator of colitis pathogenesis. **D. Giles, S. Zahner, E. van der Gracht, V. Morris, A. Tumanov, Z. Mikulski and M. Kronenberg.** La Jolla Inst. for Allergy and Immunology and Univ. of Texas Hlth. Sci. Ctr., San Antonio. (172.2)
- 4:15 Deficiency of neutrophil extracellular traps increases susceptibility to colonic inflammation. **V. Singh, B. S. Yeoh, X. Xiao, Y. Wang and M. Vijay-Kumar.** Univ. of Toledo and Pennsylvania State Univ. (172.3)
- 4:30 TRIM34 attenuates colon inflammation and tumorigenesis by promoting Muc2 exocytosis from goblet cells. **B. Sun.** Shanghai Inst. of Biochemistry and Cell Biology, China. (172.4)
- 4:45 CRTAM shapes the microbiota and enhances the severity of gut infection. **A. Perez-Lopez, S-P. Nuccio, I. Ushach, A. Zlotnik and M. Raffatellu.** Univ. of California, San Diego and Univ. of California, Irvine. (172.5)
- 5:00 Intestinal epithelium intrinsic RAR α signaling regulates gut barrier integrity via IL-18. **N. Iyer and S. Vaishnava.** Brown Univ. (172.6)
- 5:15 Intestine-specific CCR10⁺ plasma cells regulate migration of intestinal regulatory T cells. **L. Zhao, S. Hu, M. Davila and N. Xiong.** Pennsylvania State Univ. and Albert Einstein Col. of Med. (172.7)

95. TOLERANCE INDUCTION, SIGNALING, AND CELL BASED THERAPY IN AUTOIMMUNITY

Block Symposium

SUN. 3:45 PM—ROOM 18AB

CHAIRS: K. Haskins, G.F. Wu

- 3:45 Nrf2 mediated metabolic reprogramming of tolerogenic dendritic cells is protective against aplastic anemia. **H. Wei, T. K. Pareek, A. Gupta, W. Kao, O. Almudallal and J.J. Letterio.** Case Western Reserve Univ. (176.1)
- 4:00 Functional reprogramming of regulatory T cells in the absence of Foxp3. **L-M. Charbonnier, D. Lopez, J. Bleesing, M. Garcia-Lloret, K. Chen, A. Ozen, M. Li, M. Pellegrini and T.A. Chatila.** Boston Children's Hosp., Univ. of California, Los Angeles, Cincinnati Children's Hosp. Med. Ctr., Univ of Utah Sch. of Med., Marmara Univ., Turkey and Mem. Sloan Kettering Cancer Ctr. (176.2)
- 4:15 Repairing Foxp3 mutations in scurfy T cells restores regulatory T cell function. **L. Jeker and M. Kornete.** Univ. Hosp. Basel, Switzerland and Univ. of Basel, Switzerland. (176.3)
- 4:30 Discovery of a novel human anti-IL-2 antibody that potentiates Regulatory T cells by a structure-based mechanism. **E. Trotta, P. Bessette, S. Silveria, L. Ely, K. Jude, Charles Holst, A. Coyle, C. Garcia, N. Crellin, I. Rondon and J. Bluestone.** Univ. of California, San Francisco, Pfizer, Inc., Stanford Univ. Sch. of Med. and BioElectron. (176.4)
- 4:45 Nanoparticles Containing an Insulin-ChgA Hybrid Peptide Prevent Transfer of Type 1 Diabetes in NOD Mice by Expanding Foxp3⁺ Tregs. **B. Jamison, T. Neef, S. Miller and K. Haskins.** Univ. of Colorado Denver Sch. of Med. and Northwestern Univ. Feinberg Sch. of Med. (176.5)

- 5:00 PD-L1-engineered pancreatic islet grafts overcome rejection in allogeneic recipients. **L. Batra, P. Shrestha, E. Yolcu, H. Zhao, W. Bowen, K. Woodward, M. Coronel, M. Tan, A. Garcia and H. Shirwan.** Univ. of Louisville and Georgia Inst. of Technol. (176.6)
- 5:15 Extending remission and reversing new onset type 1 diabetes by targeted ablation of autoreactive T cells. **K. Carroll, E. Elfers, J. Stevens, J. McNally, D. Hildeman, M. Jordan and J. Katz.** Cincinnati Children's Hosp. Med. Ctr. (176.7)
- 5:30 Immune Modulation and Vascular Repair Sustain Pancreatic Beta Cell Regeneration To Reverse Late Stage Type 1 Diabetes. **T. Ukah, A. Cattin-Roy, M. Miller and H. Zaghouni.** Univ. of Missouri. (176.8)
- 96. CANCER VACCINES**
- Block Symposium**
- SUN. 3:45 PM—ROOM BALLROOM EFG
- CHAIRS: W. Overwijk, C. Paulos
- 3:45 Targeted delivery of antigens to CD11b⁺ cells via nanobodies induces strong antigen-specific T cell and anti-tumor responses. **A. Woodham, R. Cheloha, J. Ling, M. Rashidian, S. Kolifrath, M. Mesyngier, J. Duarte, J. Bader, J. Skeate, D. Da Silva, W. M. Kast and H. Ploegh.** Boston Children's Hosp., Harvard Med. Sch., Massachusetts Inst. of Technol., Dartmouth Geisel Sch. of Med. and Univ. of Southern California Keck Sch. of Med. (181.6)
- 4:00 Detecting neoepitope-specific intra-tumoral T cell responses in a glioblastoma patient treated with personal neoantigen vaccine. **A. Anandappa, D. Keskin, Z. Hu, J. Sun, I. Tirosh, N. Mathewson, S. Shukla, S. Li, O. Olive, D. Neuberg, E. Fritsch, K. Livak, N. Hacohen, P. Ott, D. Reardon and C. Wu.** Dana-Farber Cancer Inst., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Neon Therapeutics, Inc., Massachusetts Gen. Hosp. and Brigham and Women's Hosp. (181.11)
- 4:15 Tumor membrane vesicle (TMV)-based cancer vaccine induces dendritic cell maturation and downstream T cell activation. **L. Munoz, Y. Shafizadeh, C. Margaroli, R. Bommireddy and P. Selvaraj.** Emory Univ. Sch. of Med. and Emory Univ. (181.12)
- 4:30 Overcoming obesity-induced immunotherapeutic failure. **S. Boi, R. Orlandella, J. Gibson, D. Starenki, A. Makkouk, V. Joshi, B. Gross, A. Salem, G. Weiner and L. Norian.** Univ. of Alabama, Birmingham, HudsonAlpha Inst. for Biotech. and Univ. of Iowa. (181.15)
- 4:45 Antigen targeting of Fc-receptors induces strong T cell responses in vivo independent of ITAM signaling but dependent on dendritic cell subsets. **C. Lehmann, A. Baranska, G. Heidkamp, L. Heger, K. Neubert, J. Lühr, A. Hoffmann, K. Reimer, C. Brückner, S. Beck, M. Seeling, M. Kießling, D. Soulat, A. Krug, J. Ravetch, J. Leusen, F. Nimmerjahn and D. Dudziak.** Univ. Hosp. Erlangen, Germany, Med. Immunology Campus Erlangen, Germany, Univ. Hosp. Aachen, Germany, Friedrich Alexander Univ. Erlangen-Nürnberg, Germany, Ludwig Maximilian Univ. Hosp., Munich, Germany, Rockefeller Univ. and Univ. Med. Ctr. Utrecht, Netherlands. (181.17)
- 5:00 Vaccine targeting antigens associated with cancer stem cells/epithelial to mesenchymal transition inhibits triple negative breast cancer growth. **D. Cecil, B. Curtis, E. Gad, L. Corulli and M. Disis.** Univ. of Washington. (181.18)
- 5:15 Develop. of an Effective Cancer Vaccine Platform Using Attenuated Salmonella typhi. **X. Xu, L. Metelitsa.** Baylor Col. of Med. (181.8)
- 5:30 Efficient generation of MCC oncoprotein-specific CD4⁺ T cells for potential adoptive immunotherapy. **S. Davies, M. Chang, G. Whitehill, E. Koklanaris, S. Ito, I. Brownell, C. Buck, J. Barrett and P. Muranski.** NHLBI, NIH, Columbia Univ. Med. Ctr., Drexel Univ. Col. of Med., NIAMS, NIH and NCI, NIH. (181.19)
- 97. AAI-THERMO FISHER MERITORIOUS CAREER AWARD PRESENTATION AND LECTURE**
- Awards Lecture**
- Generously supported by Thermo Fisher Scientific*
- SUN. 4:30 PM—BALLROOM D
- CHAIR: W.M. Yokoyama
- 4:30 Introduction and Award Presentation. **W.M. Yokoyama.** Washington Univ. Sch. of Med. in St. Louis, AAI President; and **C. Hergersberg.** Thermo Fisher Scientific.
- 4:35 Learning immunology from viruses. **A. Iwasaki.** HHMI, Yale Sch. of Med.
- 98. DISTINGUISHED LECTURE**
- PAMELA J. FINK**
- Distinguished Lecture**
- SUN. 6:00 PM—BALLROOM D
- CHAIR: E.M. Oltz
- 6:00 Educating T cells from the cradle through adolescence. **P. Fink.** Univ. of Washington Sch. of Med.

SUNDAY POSTER SESSIONS

Posters on Display: 9:30 am – 4:30 pm
 Author Presentation Time: 2:30 pm – 3:45 pm

99. ANTIGEN PROCESSING AND PRESENTATION

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- APP.100 **99.1** Elucidating the role of HLA-DO/H2-O in modulating the diversity of the MHC Class II self peptide repertoire. **P. Nanaware, M. Jurewicz, J. Leszyk, S. Shaffer and L. Stern.** Univ. of Massachusetts Med. Sch.
- APP.101 **99.2** Genome-wide screens identify novel components of the MHC I pathway. **B. Kriegsman, F. Cruz, E. Merino-Rodriguez, J. Belleisle and K. Rock.** Univ. of Massachusetts Med. Sch.
- APP.102 **99.3** Identification of a gamma IFN inducible lysosomal thiol reductase (GILT)-dependent MHC-II associated epitope that induces T cell responses in GILT^{-/-} mice. **X. He, E. Reyes-Vargas, D. Hu, X. Wang and P. Jensen.** Univ. of Utah Sch. of Med.
- APP.103 **99.4** MHC class II antigen-processing chaperone H2-O shapes CD4 T cell receptor repertoire. **N. Song, R. Welsh, T. Boronina, R. Cole, C. Foss and S. Sadegh-Nasseri.** Johns Hopkins Univ.
- APP.104 **99.5** Investigating a role for the MHC class II accessory molecule HLA-DO in autoimmune disease. **R. Welsh, N. Song, T. Boronina, R. Cole, C. Foss and S. Sadegh-Nasseri.** Johns Hopkins Univ. and Johns Hopkins Univ. Sch. of Med.
- APP.105 **99.6** Self-reactive T cells restricted by non-classical MHC Ib are associated with metabolic disease. **C. Park, J. Guan, T. Ding, F. Gonzalez and N. Shastri.** Univ. of California, Berkeley and Peking Univ. Hlth. Sci. Ctr., China.
- APP.106 **99.7** MHC class I expression by microglia is required for generating a complete antigen-specific CD8 T cell response in the CNS. **C. Malo, F. Jin, M. Hansen, J. Fryer, K. Pavelko and A. Johnson.** Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Grad. Sch. and Mayo Clin.
- APP.107 **99.8** Assessing non-classical antigen presentation in HIV-infected CD4⁺ T cells. **S. Sengupta, T. Boronina, R. Cole, R. Siliciano and S. Sadegh-Nasseri.** Johns Hopkins Univ. Sch. of Med. and Johns Hopkins Univ.
- APP.108 **99.9** The unfolded protein response alters MHC class I antigen presentation in a mouse cell line. **B. Nagamine and B. Dolan.** Oregon State Univ.
- APP.109 **99.10** What have we learned about the dynamics of peptide loading from structures of TAP binding protein, related (TAPBPR)? **D. Margulies, J. Jiang and K. Natarajan.** NIAID, NIH.
- APP.110 **99.11** A Random Forest based approach to MHC class I epitope prediction and analysis. **E. Wilson, S. Krishna and K. Anderson.** Arizona State Univ., Ctr. for Personalized Diagnostics, Sch. of Biological and Hlth. Sys. Engineering.
- APP.111 **99.12** SMAD4-deficient Dendritic Cells in the Murine Lung shows an Activated Phenotype. **S. Root, A. Menoret and L. Cauley.** Univ. of Connecticut Hlth. Ctr.
- APP.112 **99.13** Characterization of Peptides Associated with Molecules of the Major Histocompatibility Complex using Mass Spectrometry. **M. Ford, R. Jones, R. Amunugama, D. Allen, M. Pisano, J. Mobley, P. Domanski and D. Bochar.** MS Bioworks LLC and Cayman Chem. Co.
- APP.113 **99.14** Comparative analysis of DR1 binding with H1N1 Hemagglutinin derived peptides. **J. Osan and T. Kuhn.** Univ. of Alaska, Fairbanks.
- APP.114 **99.15** Identification of dendritic cell iron-binding and modulating proteins as novel regulators of CD4⁺ T cell stimulation and polarization capacity. **A. Roessing, J. Lott, S. Hahn, M. Velayutham, A. Straub and H. Turnquist.** Univ. of Pittsburgh Sch. of Med.
- APP.115 **99.16** Antigen-Encapsulated Biodegradable PLGA Nanoparticles Potently Induce MHC Class II-Restricted Antigen Presentation and Maturation of Dendritic Cells. **S-H. Kim, H-H. Jung, S-D. Jang and C-K. Lee.** Chungbuk Natl. Univ., South Korea.
- APP.116 **99.17** Structure of a TAPBPR/nanobody complex reveals dynamic plasticity of unbound regions of TAPBPR. **J. Jiang, K. Natarajan, J. Ingram and D. Margulies.** Harvard Med. Sch.
- APP.117 **99.18** Butyrophilin (BTN) molecules control $\gamma\delta$ T cells in tissue epithelia. **D. Rhodes, N. McCarthy, J. Trowsdale and M. Eberl.** Univ. of Cambridge, United Kingdom, Univ. of London, United Kingdom and Cardiff Univ., United Kingdom.
- APP.118 **99.19** Mechanisms of MCMV immune evasion provide insight into MHC-I folding and assembly. **N. May, L. Boyd and D. Margulies.** NIAID, NIH.
- APP.119 **99.20** Targeted mass spectrometry identifies computationally predicted, public, leukemia associated minor histocompatibility antigens. **B. Vincent, C. Kirkpatrick, J. Lansford, E. Wilkerson, L. Herring, S. Chai, S. Hunsucker and P. Armistead.** Univ. of North Carolina, Chapel Hill.
- APP.120 **99.21** Investigating the MHC class-II processing and presentation network via high-throughput small molecule screening. **E. Wold, D. Schultz, S. Cherry and L. Eisenlohr.** Children's Hosp. of Philadelphia and Perelman Sch. of Med., Univ. of Pennsylvania.
- APP.121 **99.22** A role for the nonclassical MHC molecule DO in Treg selection and function. **M. Jurewicz, P. Nanaware and L. Stern.** Univ. of Massachusetts Med. Sch.

- APP.122 **99.23** Chaperone-assisted peptide exchange on MHC-I is driven by a negative allosteric release cycle: implications for a role of peptide-editing Molecular Chaperones in scrutinizing the peptide repertoire. **N. Sgourakis, A. McShan, K. Natarajan, V. Kumirov, D. Flores-Solis, J. Jiang, M. Badstuebner, E. Kovrigin and D. Margulies.** Univ. of California, Santa Cruz, NIAID, NIH and Marquette Univ.
- APP.123 **99.24** Systemic profiling of HLA-C epitopes. **D. Keskin, S. Sarkizova, S.K. Klaeger, L. Li, P. Le, H. Keshishian, C.R. Hartigan, G. Zhang, K. Clauser, S. Carr, N. Hacohen and C. Wu.** Broad Inst. of MIT and Harvard, Dana Farber Cancer Inst., and Boston Univ.
- APP.124 **99.25** Extraction and intracellular trafficking of membrane associated antigen distinguishes human germinal center B cells from naïve B cells and memory B cells. **K. Kwak, A. Saniee, N. Quizon, H. Sohn and S. Pierce.** NIAID, NIH.
- APP.125 **99.26** Subversion of antigen presentation by Adenoviruses. **M. Bouvier, L. Li and H. Deng.** Univ. of Illinois, Chicago.
- APP.126 **99.27** Synthetic Peptide Nanofiber Adjuvants Engage Mechanisms of Autophagy in Antigen Presenting Cells. **J. Rudra, A. Khan, T. Clover, J. Endsley, A. Zloza, J. Wang and C. Jagannath.** Univ. of Texas Med. Br., Galveston, Univ. of Texas Hlth. Sci. Ctr., Houston, Robert Wood Johnson Med. Sch., Rutgers Univ. and Houston Methodist Res. Inst.
- APP.127 **99.28** DO:DM tunes antigen presentation in a BCR affinity-dependent manner. **W. Jiang, L. Adler, H. Macmillan and E. Mellins.** Stanford Univ., Weizmann Inst. of Sci., Israel, and Univ. of California, San Francisco.
- APP.128 **99.29** A role for apoptotic and scavenger receptors in mediating antigen exchange between lymphatic endothelial cells and migratory dendritic cells. **A. Caffrey, B. Tamburini and R. Kedl.** Univ. of Colorado Sch. of Med.
- APP.129 **99.30** An Unbiased Determination of pMHC Repertoires for Improved Antigen Prediction. **C. Rappazzo and M. Birnbaum.** Massachusetts Inst. of Technol.
- 100. BASIC AUTOIMMUNITY: NOVEL MOLECULES**
Poster Session
 SUN. 2:30 PM—EXHIBIT/POSTER HALL
- BA.130 **100.1** Regulatory effects of immune system thyroid stimulating hormone β -subunit splice variant (TSH β v) on thyroid hormone secretion in mice. **J. Klein.** Univ. of Texas Hlth. Sci. Ctr., Houston
- BA.131 **100.2** Identification of immunological pathways altered by a pro-autoimmune genetic risk variant, PTPN22 1858C>T, that enhances the prevalence of Type 1 diabetes. **S. Schmiel, K. Marquardt, X. Lin and L. Sherman.** Scripps Res. Inst.
- BA.132 **100.3** Identification of Btl2 as a key gene in suppressing autoimmunity: new players in SLE pathogenesis. **S. Khan, S-H. Hwang, K. Belobrajdic, K. Viswanathan, B. Wakeland, J. Casco and E. Wakeland.** Univ. of Texas Southwestern Med. Ctr.
- BA.133 **100.4** Loss of circadian rhythmicity of renin-angiotensin-aldosterone system and sodium and potassium balance in lupus nephritis mice. **R. Mishra, R. Bethunaickan, W. Zhang and A. Davidson.** Icahn Sch. of Med., Mount Sinai.
- BA.134 **100.5** Pro-inflammatory bradykinin metabolites are upregulated in SLE and rheumatoid arthritis. **K. Vanarsa, J. Henderson, Q. Ling, S. Soomro, R. Saxena, C. Putterman, I. Blanco and C. Mohan.** Univ. of Houston, Univ. of Texas Southwestern Med. Ctr. and Albert Einstein Col. of Med.
- BA.135 **100.6** Salivary biomarkers in SLE. **S. Gotewal, S. Soomro, U. Akbar, R. Saxena, M. Petri and C. Mohan.** Univ. of Houston, Univ. of Texas Southwestern Med. Ctr. and Johns Hopkins Univ. Sch. of Med.
- BA.136 **100.7** Inflammation targets cell-cycle actors at the onset of autoimmune diabetes (T1D) in pancreatic endocrine cells from the NOD mouse model. **C. Mora, N. Saavedra-Ávila, E. Sala, U. Sengupta, J. Verdaguer, T. Stratmann, P. Sicinski and J. Lahti.** Univ. of Lleida, Spain, Univ. of Barcelona, Spain, Dana Farber Cancer Inst. and St. Jude Children's Res. Hosp.
- BA.137 **100.8** Dietary Tryptophan Modulates Autoimmunity in a Mouse Model of Lupus. **J. Brown, S-C. Choi, N. Kanda and L. Morel.** Univ. of Florida.
- BA.138 **100.9** Absence of severity receptor alpha in males does not impact disease severity during nephrotoxic serum-induced nephritis. **C. Corradetti, M. Cesaroni, M. Madaio and R. Caricchio.** Temple Univ. Sch. of Med., Janssen Pharmaceuticals and Med. Col. of Georgia.
- BA.139 **100.10** Serum LTB₄, HODE13 and PLA2G7 as biomarkers of cardiovascular disease in SLE. **S. Baig, H. Ding, M. McMahon and C. Mohan.** Univ. of Houston and Univ. of California, Los Angeles.
- BA.140 **100.11** Identification of protein biomarkers in cerebrospinal fluid(CSF) of Neuro Psychiatric SLE(NPSLE) patients using SOMA scan assay. **K. Vanarsa, J. Hanly, C.C. Mok and C. Mohan.** Univ. of Houston, Dalhousie Univ. Med. Sch. and Tuen Mun Hosp., Hong Kong.
- BA.141 **100.12** VLA4 expression by B cells enables B cell-restricted antigen presentation to support CD4 T cell driven central nervous system autoimmunity. **C.P. Harp, A. Archambault, J. Sim, J. Carrero, J. Russell and G. Wu.** Washington Univ. in St. Louis.
- BA.142 **100.13** ST8Sia6 attenuates diabetes progression and severity. **P. Belmonte, J.Y. Chung, S.R. Arocha, A. Schwab, M. Shapiro, B. Fife and V. Shapiro.** Mayo Clin. and Univ. of Minnesota.
- BA.143 **100.14** The transcription factor NFAT5 inhibits experimental autoimmune encephalomyelitis (EAE) in mice. **B. Packialakshmi, S. Hira, J. Halterman, J. Lees and X. Zhou.** Uniformed Serv. Univ. of the Hlth. Sci. and Eastern Mennonite Univ.
- BA.144 **100.15** The kinase MAP4K3/GLK is a novel therapeutic target for IL-17A-mediated autoimmune diseases. **T-H. Tan and H-C. Chuang.** Natl. Hlth. Res. Inst., Taiwan.
- BA.145 **100.16** Adjuvant-induced rheumatoid arthritis in Lewis rats alters dopamine utilization and cytokine concentration in five brain regions. **H. Yang, A. Stinson and C. Carcia.** Univ. of the Incarnate Word.

SUNDAY—POSTER SESSIONS

- BA.146 **100.17** Autoimmune disease severity is suppressed by type I interferon signaling in radioresistant cells. **R. Riding, J. Richmond, K. Fukuda and J. Harris.** Univ. of Massachusetts Med. Sch.
- BA.147 **100.18** Neuropsychiatric lupus is lipocalin-2 dependent. **E. Mike, C. Cuda, H. Makinde, H. Perlman and C. Putterman.** Albert Einstein Col. of Med. and Feinberg Sch. of Med., Northwestern Univ.
- BA.148 **100.19** Metabolic Functions of the Murine Lupus Susceptibility Gene *Pbx1*. **T. Roach, A. Titov, S. Soh, B. Robusto and L. Morel.** Univ. of Florida and Sookmyung Women's Univ.
- BA.149 **100.20** Structural characteristics of the serum endonuclease Dnase1L3. **J. McCord, F. Harsini, R. Sutton and P. Keyel.** Texas Tech Univ. and Texas Tech Univ. Hlth. Sci. Ctr.

101. BASIC AUTOIMMUNITY: REGULATORY T CELLS

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- BA.150 **101.1** Human regulatory T cells suppress CD4⁺ T cells by rapidly altering the phosphoproteome. **R. Joshi, F. Marabita, N. Binai, Z. Sui, A. Altman, A. Heck, J. Tegner and A. Schmidt.** Karolinska Univ. Hosp., Sweden, Utrecht Univ., Netherlands and La Jolla Inst. for Allergy and Immunology.
- BA.151 **101.2** *MicroRNA-142* guards against autoimmunity by controlling T_{reg} cell development and function. **W-L. Wang, C. Ouyang, K. Cassady, M. Xiong, E. Reyes, A. Davis, K. Tang, D. Zeng and M. Boldin.** Beckman Res. Inst., City of Hope.
- BA.152 **101.3** Noc4L dictates Treg activation in vivo. **X. Zhou.** Inst. of Microbiology and Chinese Acad. of Sci., China.
- BA.153 **101.4** Generation of a mouse model of extrathymically-derived regulatory T cells in type 1 diabetes. **D. Holohan, S. Dong, C. Porter, O. Rozenblatt-Rosen, A. Regev, F.V. Gool and J. Bluestone.** Univ. of California, San Francisco and Broad Inst. of MIT and Harvard.
- BA.154 **101.5** Dissecting the genetic networks that control regulatory T cell stability using pooled CRISPR screens. **J. Cortez, E. Shifrut, Y. Lee, M. Mumbach, A. Satpathy, J. Granja, M. Subramaniam, T. Roth, D. Simeonov, C. Ye, H. Chang, F.V. Gool and A. Marson.** Univ. of California, San Francisco and Stanford Univ. Sch. of Med.
- BA.155 **101.6** Conditional deletion of CD25 in Tregs abrogates their suppressive function independently of Foxp3. **K. Toomer and T. Malek.** Univ. of Miami Miller Sch. of Med.
- BA.156 **101.7** Treg-specific LAG3 deletion reveals a key role for LAG3 in regulatory T cells to inhibit CNS autoimmunity. **Y. Thaker, L. Andrews, C. Workman, D. Vignali and A. Sharpe.** Harvard Med. Sch. and Univ. of Pittsburgh Sch. of Med.
- BA.157 **101.8** Emergence of T Regulatory Cells Following Neural Precursor Cell Transplantation in Mouse Models of Multiple Sclerosis. **L. McIntyre, W. Plaisted, Q. Nguyen, K. Kessenbrock, T. Lane and C. Walsh.** Univ. of California Irvine, Genomics Inst. of the Novartis Res. Fdn. and Univ. of Utah.
- BA.158 **101.9** Foxp3 domain-swap interface is required to suppress T helper type 2 transcriptional program in Regulatory T cells. **F.V. Gool, M. Nguyen, M. Mumbach, A. Satpathy, M. Anderson, A. Marson, H. Chang and J. Bluestone.** Univ. of California, San Francisco and Stanford Univ. Sch. of Med.
- BA.159 **101.10** Aire-dependent thymic FoxP3⁺ regulatory T cells in Type 1 Diabetes. **J. Bridge, B. Yuen, S. Dong, J. Ye, J. Kappler, J. Bluestone and M. Anderson.** Univ. of California, San Francisco and Natl. Jewish Hlth., Denver.
- BA.160 **101.11** IL-27 Protects from Autoimmunity by Suppressing IL-17 Production and Promoting Treg Suppressor Functions. **K. Bockerstett, C. Wong, E. Ford and R. DiPaolo.** St. Louis Univ.
- BA.161 **101.12** Antigen discovery for regulatory T cells (Tregs) in type-1 diabetes (T1D). **S. Dong, D. Xu, J. Bridge, W. Purtha, A. Spence, D. Wells, X.H. Wang, Q. Tang, M. Anderson and J. Bluestone.** Univ. of California, San Francisco, Parker Inst. for Cancer Immunotherapy and Berkeley Lighth.
- BA.162 **101.13** Thymic development of regulatory T cells by dendritic cells presenting modified peripheral beta cell antigens. **Y. Lin, T. Lee, G. Zurawski, M. Bettini and M. Bettini.** Baylor Col. of Med., Baylor Inst. for Immunology Res., and McNair Med. Inst.
- BA.163 **101.14** WITHDRAWN

102. LEUKOCYTE ADHESION AND MIGRATION

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- CAM.164 **102.1** Protein Kinase 2 (CK2) is Required for CD4⁺ T Cell Function in the Pathogenesis of Colitis. **W. Yang, S. Gibson, Z. Yan, H. Qin and E. Benveniste.** Univ. of Alabama, Birmingham.
- CAM.165 **102.2** WITHDRAWN.
- CAM.166 **102.3** Trafficking of lung-migratory cDC2s into the spleen following influenza virus infection. **M. Jenkins, H. Bachus, B. Leon-Ruiz and A. Ballesteros-Tato.** Univ. of Alabama, Birmingham.
- CAM.167 **102.4** Epigallocatechin-3-Gallate suppresses neutrophil accumulation and the IL-1 beta pathway in a transgenic zebrafish model of inflammation. **T. Nguyen, B. Payan, M. Bondesson and C. Mohan.** Univ. of Houston and Indiana Univ.

- CAM.200 **102.5** Mono-(2-ethylhexyl) phthalate (MEHP)-induced neutrophil and macrophage infiltration into the testicular interstitium of peripubertal rats does not exacerbate MEHP-induced germ cell apoptosis. **J. Voss, A. Stermer, R. Ghaffari, R. Tiwary and J. Richburg.** Univ. of Texas, Austin.
- CAM.201 **102.6** Effect of insulin receptor expressing T cell infiltration in islets on beta cell functionality. **N. Nandedkar, E. Rhoades, N. Gupta, A. Al-Dieri, J. Bretz, H. Hafner, B. Gregg and M. McInerney.** Univ. of Michigan.
- CAM.202 **102.7** Altered flow triggers activated T cell accumulation and inflammation in early atherosclerosis. **M. Xu, A. Menoret, B. Zhou, P. Murphy and A. Vella.** Univ. of Connecticut Hlth. Ctr.
- CAM.203 **102.8** Anti-sulfated-glycan monoclonal antibody S2 inhibits lymphocyte recruitment to nasal-associated lymphoid tissues and attenuates allergic rhinitis. **J. Hirakawa and H. Kawashima.** Chiba Univ., Japan.
- CAM.204 **102.9** Using Reginoids to Program Effector T cells for Homing to Mucosal Sites of Virus Transmission. **K. Manhas, J. Blattman, P. Marshall, C. Wagner and P. Jurutka.** Biodesign Ctr. for Immunotherapy, Vaccines, and Virotherapy, The Biodesign Inst., Arizona State Univ., Sch. of Life Sci., Arizona State Univ., Sch. of Mathematical and Natural Sci., Arizona State Univ.
- CAM.205 **102.10** Early neutrophil depletion reduces inflammation-sensitized hypoxic-ischemic brain injury in mouse neonates. **H-W. Yao and C-Y. Kuan.** Univ. of Virginia Sch. of Med.
- CAM.206 **102.11** Neutrophil elastase activates MMPs in macrophages and promotes adhesion and cytokine expression through the integrin – Src pathway. **K. Krotova, N. Khodayari, R. Oshins, G. Aslanidi and M. Brantly.** Univ. of Florida, Univ. of Minnesota and The Hormel Inst.
- CAM.207 **102.12** Migration Kinetics and Migratory Morphology of *Mycobacterium*-Infected CD11c-eYFP Murine Bone Marrow Derived Cells. **T. Gilpin.** Univ. of Wisconsin, Madison.
- CAM.208 **102.13** CCR2 mediates transendothelial migration of human pathogenic Th17 cells. **F. Parween, N. Kathuria, H. Zhang and J. Farber.** NIAID, NIH.
- CAM.209 **102.14** Downregulation of allograft inflammatory factor-1 prevents B cell infiltration to cardiac tissue during the development of diabetic cardiomyopathy (DCM). **A. Sarkar, S. Shukla and K. Rafiq.** Thomas Jefferson Univ.
- CAM.210 **102.15** CD11c+ cells are required for lymphocyte trafficking into previously infiltrated pancreatic islets during type 1 diabetes. **A. Sandor, R. Lindsay, M. Gebbert, B. Bradley, K. Haskins, J. Jacobelli and R. Friedman.** Natl. Jewish Hlth. and Univ. of Colorado Sch. of Med.
- CAM.211 **102.16** Gut pathobiont translocation induces lymphocyte migration to internal organs in autoimmunity. **R. Fine, S.M. Vieira, D.Z. Ruiz and M. Kriegel.** Yale Sch. of Med.
- CAM.212 **102.17** Novel in vitro model of Rich focus formation and mycobacterium infected cell migration at the blood brain barrier. **F. Walter, T. Gilpin, A. Mergaert, M. Sandor and Z. Fabry.** Univ. of Wisconsin, Madison.
- CAM.213 **102.18** CD8 T cells are recruited to the central nervous system after peripheral infections and adopt a tissue resident memory phenotype. **S. Urban, L. Pewe and J. Harty.** Univ. of Iowa Carver Col. of Med.
- CAM.214 **102.19** FMNL1 promotes T cell extravasation and trafficking to sites of inflammation. **S. Thompson, R. Long, J. Chung, M. Estin and J. Jacobelli.** Natl. Jewish Hlth. and Univ. of Colorado Sch. of Med.
- CAM.215 **102.20** Regulation of beta1 Integrin Recycling, Cell Migration and Focal Adhesion Turnover by Cell Adhesion molecule- CD13. **M. Ghosh, R. Lo, C. Devarakonda, B. Aguilera, I. Ivic and L. Shapiro.** Univ. of Connecticut Hlth. Ctr.
- CAM.216 **102.21** Histone Demethylase Jmjd3 Controls T-Cell Trafficking and Persistence by Interacting with Klf2 for Expression of Pdlim4. **C. Fu, Q. Li, J. Zou, C. Xing, M. Zhu, P. Tan, M. Lin and R. Wang.** Ctr. for Inflammation and Epigenetics, Houston Methodist Res. Inst., Texas A&M Univ. Hlth. Sci. Ctr., Baylor Col. of Med., Dartmouth Geisel Sch. of Med. and Houston Methodist Res. Inst.

103. HEMATOPOIESIS AND B CELL DEVELOPMENT

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- HEM.217 **103.1** Inhibitor of MyoD Family A (I-mfa) regulates HSPC and myeloid differentiation. **J. Houser, M. Onopiuk, M. Ratliff, P. Ngo, C. Webb, L. Tsiokas and M.B. Humphrey.** Univ. of Oklahoma Hlth. Sci. Ctr.
- HEM.218 **103.2** Long-lived plasma cells regulate patterns of hematopoiesis in aging. **P. Pioli, D. Casero, E. Montecino-Rodriguez, S. Morrison and K. Dorshkind.** David Geffen Sch. of Med., Univ. of California, Los Angeles.
- HEM.219 **103.3** Bone marrow lympho-myeloid malfunction in obesity requires precursor cell-autonomous TLR4. **L. Borghesi, A. Liu, M. Chen, M. Stefanovic-Racic, R. Kumar, R. O'Doherty, Y. Ding and W. Jahnen-Dechent.** Univ. of Pittsburgh Sch. of Med., Univ. of North Carolina, Chapel Hill, Univ. of Pittsburgh Grad. Sch. of Publ. Hlth. and Univ. Hosp. Aachen.
- HEM.220 **103.4** Differentiation of hematopoietic stem and progenitor cells to NK cells in a stroma-free, serum-free culture system. **N. Tabatabaei-Zavareh, K. Fawcett, T.L. Fevre, S. Szilvassy, T. Thomas, A. Eaves and A. Wognum.** STEMCELL Technol., Inc., Canada and British Columbia Cancer Agency, Canada.
- HEM.221 **103.5** Distinct tissue specific functions for bone marrow regulatory T cells. **V. Camacho, S. Wolock, D. Tenen and R. Welner.** Univ. of Alabama, Birmingham, Harvard Med. Sch. and Beth Israel Deaconess Med. Ctr.
- HEM.222 **103.6** Lymphoid biased hematopoietic stem cells acquire a myeloid pattern of gene expression with age. **Y. Kong, P. Pioli, E. Montecino-Rodriguez, D. Casero and K. Dorshkind.** David Geffen Sch. of Med., Univ. of California, Los Angeles.

SUNDAY—POSTER SESSIONS

- HEM.223 **103.7** Common lymphoid progenitor derivation of a conserved dendritic cell subtype is mediated by Bcl11a. **J. Dekker, C. Rhee, Z. Hu, B-K. Lee, J. Lee, V. Iyer, L. Ehrlich, G. Georgiou, G. Ippolito and H. Tucker.** Univ. of Texas, Austin and Univ. of California, San Francisco.
- HEM.224 **103.8** HSC-requirement for macrophage regeneration is tissue-specific. **E. Ghosn, H. Kuipers, J. Waters, J. Sosa, M. Phillips and L. Herzenberg.** Emory Univ. and Stanford Univ.
- HEM.225 **103.9** Matrix protein Tenascin-C expands and reversibly blocks maturation of eosinophil progenitors. **T. Doan, B. Jeong, M. Coden, H. Abdala-Valencia and S. Berdnikovs.** Feinberg Sch. of Med., Northwestern Univ.
- HEM.226 **103.10** The pro-inflammatory microRNA-155 promotes FLT3-ITD-induced myeloproliferative disease through inhibition of interferon signaling. **J. Wallace and R. O'Connell.** Univ. of Utah
- HEM.227 **103.11** A novel approach to enhance T cell recovery after bone marrow transplant. **K. Wimberly, M. Semwal, Y. Xiao and A. Griffith.** Univ. of Texas Hlth., San Antonio.
- HEM.228 **103.12** Engin. antigen-specific T cells from human pluripotent stem cells. **L.T. Vo, D. Nguyen, T. Roth, A. Marson, G. Daley and J. Bluestone.** Univ. of California, San Francisco and Boston Children's Hosp.
- HEM.229 **103.13** Niche-specific regulation of hematopoietic stem and progenitors by NR4A1. **M. Mumau, S. Emerson and J. Punt.** Columbia Univ. Med. Ctr. and Univ. of Pennsylvania Sch. of Vet. Med.
- HEM.230 **103.14** WITHDRAWN.
- HEM.231 **103.15** Utility of recombinant Hedgehog proteins and RANKL to generate bone cell models in vitro. **H. Soto, J. Moyron-Quiroz, D. Kim, M. Chattopadhyay, M. Tam, X. Yang, D. Nguyen and J. Zhou.** BioLegend, Inc.
- HEM.232 **103.16** Full Length RAG2 Expression Enhances the DNA Damage Response in Pre-B Cells. **J. Byrum, W. Rodgers and K. Rodgers.** Univ. of Oklahoma Hlth. Sci. Ctr.
- HEM.233 **103.17** Discrete roles and bifurcation of PTEN signaling and mTORC1-mediated anabolic metabolism underlie IL-7-driven B lymphopoiesis. **H. Zeng, W. Su, H. Shi and H. Chi.** Mayo Clin. and St. Jude Children's Res. Hosp.
- HEM.234 **103.18** The earliest B-1 precursor cells are present in E10.5 embryos more than HSC precursor cells. **M. Yoshimoto, S. Tarnawsky, A. Mishra, M. Kobayashi, I. Bernstein, B. Hadland and M. Yoder.** Univ. of Texas Hlth. Sci. Ctr., Houston, Indiana Univ. Sch. of Med. and Fred Hutchinson Cancer Res. Ctr.
- HEM.235 **103.19** Loss of the von-Hippel Lindau gene in osteocytes alters B lymphocyte development and immune response. **B. Chicana, D. Genetos, C. Yellowley, D. Murguesh, G. Loots and J. Manilay.** Univ. of California, Merced, Univ. of California, Davis and Lawrence Livermore Natl. Lab.
- HEM.236 **103.20** Transgenic expression of human IL15 in NOD-*scid* *IL2rgnull* (NSG) mice enhances the development and survival of functional human NK cells. **M. Brehm, K-E. Aryee, L. Bruzenksi, D. Greiner, L. Shultz and J. Keck.** Univ. of Massachusetts Med. Sch. and The Jackson Lab.
- HEM.237 **103.21** Maturation of cord blood natural killer (NK) cells differs among neonates. **A. Prince, L. Watkin, V. Davis, J. Orange, K. Aagaard and E. Mace.** Baylor Col. of Med. and Texas Children's Hosp.
- HEM.238 **103.22** The ion channel TRPM7 is required for B cell lymphopoiesis. **B. Treanor, F.M. Buhari, T. Zhao, P. Brauer, K. Burrows, E. Cao, V. Moxley-Paquette, A. Mortha, J.C. Zúñiga-Pflücker and M. Krishnamoorthy.** Univ. of Toronto, Canada and Sunnybrook Res. Inst., Canada.
- HEM.239 **103.23** RAG2 interactions with H3K4me3 are regulated by Thr490 proximal to the RAG2 PHD region. **W. Rodgers, J. Byrum and K. Rodgers.** Univ. of Oklahoma Hlth. Sci. Ctr.
- HEM.240 **103.24** ABCB7 is required for B lymphocyte development. **M. Lehrke, J.Y. Chung, A. Schwab, M. Shapiro and V. Shapiro.** Mayo Clin.
- HEM.241 **103.25** Regulation of B Lymphocyte Develop. by Extracellular ST6Gal-I Sialyltransferase. **E. Irons and J. Lau.** Roswell Park Cancer Inst.
- HEM.242 **103.26** Ikaros regulates epigenetic and transcriptional programs in progenitor B cell leukemia. **H. Schjerven, E. Ayongaba, P. Rodriguez and S. Frieze.** Univ. of California, San Francisco, Oslo Univ. Hosp., Norway, Univ. of Oslo, Norway and Univ. of Vermont.
- HEM.243 **103.27** Delineating the ILC Development Pathway. **D. Kasal and A. Bendelac.** Univ. of Chicago.
- HEM.244 **103.28** mTORC1 and mTORC2 differentially regulate the development of NK cells. **C. Yang, J. Siebert, M. Thakar and S. Malarkannan.** Blood Ctr. of Wisconsin and Med. Col. of Wisconsin.
- HEM.245 **103.29** Epigenetic control of ILC1 homeostasis by regulatory elements marked by a long non-coding RNA. **W. Mowel, S. McCright, J. Kotzin, A. Williams, R. Flavell and J. Henao-Mejia.** Univ. of Pennsylvania, Jackson Lab., Univ. of Connecticut Hlth. Ctr., Yale Sch. of Med. and Howard Hughes Med. Inst.
- HEM.246 **103.30** The Differential Role of GM-CSF and Flt3L on Myelopoiesis of Lineage Negative Bone Marrow Cells. **S. Oh and E.Y. Choi.** Seoul Natl. Univ. Col. of Med., South Korea.
- HEM.247 **103.31** MHCII⁺ Macrophages in Peritoneal and Pleural Cavities Require IRF4 for Develop. from Circulating Monocytes. **K. Kim, J. Williams, Y-T. Wang, S. Ivanov, S. Gilfillan, M. Colonna, H. Virgin, E. Gautier and G. Randolph.** Washington Univ. in St. Louis, INSERM UMR_S 1166, Sorbonne Universités, UPMC Univ Paris 06 and Pitié-Salpêtrière Hosp., France.
- HEM.248 **103.32** Role of Rho kinases in B cell development. **A. Sambandam, P. Caplazi, X. Wu, S. Jeet, J. Liu, J. Zhang, W. Lee and R. Pappu.** Genentech, Inc.
- HEM.249 **103.33** Characterizing hematopoietic precursors of Langerhans Cell Histiocytosis (LCH) using a humanized mouse model. **R. Mancusi, C. Bigenwald and M. Merad.** Binghamton Univ. and Icahn Sch. of Med., Mount Sinai.

HEM.250 **103.34** ConcanavalinA induced pluripotent CD34 (+) bone marrow stem cells are prominently differentiated into multifunctional nonlymphocytic lineages in vitro. **F. Mubariz, D. Trisler, C. Bever and T. Makar.** Univ. of Maryland, Baltimore.

104. FOOD ALLERGY AND HYPERSENSITIVITY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

HYP.252 **104.1** An adjuvant-free mouse model of anaphylaxis to saline-soluble wheat protein. **V. Gangur, Y. Jin, P. Ng and E. Olson.** Michigan State Univ.

HYP.253 **104.2** Development and validation of a novel method to evaluate differences in allergenicity among wheat genotypes. **V. Gangur, H. Gao, Y. Jin, P. Ng and E. Olson.** Michigan State Univ.

HYP.254 **104.3** Oral electrophilic nitro-fatty acids inhibit cutaneous immune responses. **P. Wang, M. Killeen and A. Mathers.** Univ. of Pittsburgh Sch. of Med.

HYP.255 **104.4** The effect of the common food additive tBHQ in OVA-elicited food allergy. **Y. Jin, J. Bursley, H. Dover, V. Gangur and C. Rockwell.** Michigan State Univ.

HYP.256 **104.5** Contribution of the glycosyltransferase FucT-VII to allergic skin inflammation. **I. Khan, B. Ulrich, G. Kansas and M. Kaplan.** Indiana Univ. Sch. of Med. and Feinberg Sch. of Med., Northwestern Univ.

HYP.257 **104.6** Development of a novel mouse model to study tick-borne onset of red meat allergy. **J. Chandrasekhar, K. Cox, W. Loo, K. Tung and L. Erickson.** Univ. of Virginia Sch. of Med.

HYP.400 **104.7** A disintegrin and metalloproteinase 17 is required for IL-33 induced ILC2 expansion and cytokine production. **J. Lownik, R. Martin and D. Conrad.** Virginia Commonwealth Univ. Sch. of Med.

HYP.401 **104.8** Forward genetic screen of allergy reveals genetic basis for allergic disease. **J. SoRelle, Z. Chen, J. Wang, M. Tang, X. Li and B. Beutler.** Univ. of Texas Southwestern Med. Ctr. and GlaxoSmithKline.

HYP.402 **104.9** Type 2 innate lymphoid cells contribute to a mixed-type allergic response following topical exposure to the quaternary ammonium compound didecyltrimethylammonium chloride. **H. Shane, E. Lukomska and S. Anderson.** CDC/Natl. Inst. for Occup. Safety and Hlth.

HYP.403 **104.10** Genetic analysis of *Bphse* and *Shs*, novel loci controlling hypersensitivity to histamine in mice. **A. Raza, S. Diehl, K. Finstad, L. Case, D. Kremontsov, E. Blankenhorn and C. Teuscher.** Univ. of Vermont, The Jackson Lab. and Drexel Univ.

HYP.404 **104.11** Altered TGF β signaling in non-hematopoietic cells leads to eosinophilic esophagitis. **K. Laky, J. Kinard, A. Guerrero and P. Frischmeyer-Guerrero.** NIAID, NIH and Johns Hopkins Univ. Sch. of Med.

HYP.405 **104.12** Maternal Lipid Regulation of the Development of Responsiveness to Allergen in Neonates and Infants. **J. Cook-Mills and M. Walker.** Northwestern Univ.

HYP.406 **104.13** Engineered ovalbumin-expressing regulatory T cells protect from chicken egg white-induced allergy in vivo. **M. Abdeladhim, A. Zhang, L. Kropp, Y.C. Kim, E. Mitre and D. Scott.** Uniformed Serv. Univ. of Hlth. Sci.

HYP.407 **104.14** Saturated fat-induced food allergy: a paradigm for unfolded protein response (UPR)-mediated allergic inflammation. **U.K. Samavedam, S. Morris, M. Khodoun, D. Wu, C. Potter, S. Hogan and F. Finkelman.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med.

HYP.408 **104.15** Paneth cells regulate allergic sensitization in the gastrointestinal tract. **E. Kim, D. Burnett, A. Rudinsky, Y. Mori-Akiyama, E. Cormet-Boyaka and P. Boyaka.** Ohio State Univ. Col. of Vet. Med. and Baylor Col. of Med.

HYP.409 **104.16** Transcription factor signal transducer and activator of transcription 3 (STAT-3) serves as a negative regulator controlling IgE class switching. **P. Dascani, C. Ding, X. Kong and J. Yan.** Univ. of Louisville and Zhejiang Univ. Sch. of Med., China.

105. MAST CELL BIOLOGY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

HYP.410 **105.1** Sphingosine-1-phosphate receptor 4 regulates passive systemic anaphylaxis in mice but is dispensable for canonical IgE-mediated responses in mast cells. **J. Kulinski, R. Proia, G. Tuymetova, D. Metcalfe and A. Olivera.** NIAID, NIH, and NIDDK, NIH.

HYP.411 **105.2** Epigenetic regulation of mast cell function via inhibition of histone acetylation results in suppression of mast cell responses. **C. Mathias, D. Krajewski, E. Kaczinski, J. Rovatti, S. Polukort, C. Dollard, M. Mire and S. Kinney.** Western New England Univ.

HYP.412 **105.3** Identification of an *I19* gene locus regulatory element in mast cells and basophils. **A.A. Qayum, B. Koh and M. Kaplan.** Indiana Univ. Sch. of Med.

HYP.413 **105.4** Lipoxin A4 restrains mast cell function and inhibits type 2 mediated cutaneous inflammation. **H. Baxendell, A. Haduch, J. Alwine, N. Naumov, L. Falo and T. Sumpter.** Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.

HYP.414 **105.5** Mast cell corticotropin releasing factor receptor CRF₂ regulates mast cell function in response to psychological and immunological stress. **A. Moeser, S. D'Costa, S. Ayyadurai, E. Mackey and N Wilson.** Michigan State Univ. and North Carolina State Univ.

SUNDAY—POSTER SESSIONS

- HYP.415 **105.6** Mast cell-driven clearance in *N. brasiliensis* is masked by IL-25-dependent B1 cell IgE. **R. Martin, Y. Valentine, E. Davis, J. Lownik, A. Luker, M. Zellner, J. Urban, F. Finkelman and D. Conrad.** Virginia Commonwealth Univ. Sch. of Med., USDA and Univ. of Cincinnati Col. of Med.
- HYP.416 **105.7** Characterization of the phenotype of the connective tissue mast cell knockout *Mcpt5Cre+;Rosa(DTA)* mice in the lung. **J. Cohen.** Brigham and Women's Hosp.
- HYP.417 **105.8** Selective Serotonin Reuptake Inhibitors Suppress Mast Cell Function. **T. Haque and J. Ryan.** Virginia Commonwealth Univ. Sch. of Med.
- HYP.418 **105.9** The sins of first exposure: simultaneous allergen- and influenza-mediated signaling results in mast cell hyperactivity. **R. Temple and J. Obar.** Dartmouth Geisel Sch. of Med.
- HYP.419 **105.10** STIM1 contributes to mast cell functional response via MrgprX2. **C. Occhiuto, A. Kammala and H. Subramanian.** Michigan State Univ.
- HYP.420 **105.11** IL-6 potentiates FcεRI-induced PGD₂ biosynthesis from human skin mast cells by a STAT3-dependent mechanism. **C. McHale and G. Gomez.** Univ. of South Carolina Sch. of Med.
- HYP.421 **105.12** Neurokinin A augments SynCAM expression and IL-10 release from mast cells. **T. Sumpster, J. Alwine, M. Rao, L. Faló and A. Larregina.** Univ. of Pittsburgh Sch. of Med.
- HYP.422 **105.13** Exposure to silver nanoparticles primes mast cells for enhanced IgE/FcεR1-mediated activation. **N. Alsaleh and J. Brown.** Univ. of Colorado and Denver.
- HYP.423 **105.14** ADAM17-deficient mast cells exhibit decreased IgE-mediated activation due to impaired Lyn phosphorylation. **A. Luker and D. Conrad.** Virginia Commonwealth Univ. Sch. of Med.
- HYP.424 **105.15** Xanthone Jacareubin inhibits FcεRI-dependent degranulation in mast cells by the blockage of extracellular calcium entry. **J. Castillo-Arellano, S. Guzmán-Gutiérrez, A. Ibarra-Sánchez, S. Hernández-Ortega, R. Reyes-Chilpa and C. Gonzalez-Espinosa.** Universidad Nacional Autónoma de México, Mexico and Centro de Investigación y de Estudios Avanzados del IPN, Mexico.
- HYP.425 **105.16** MicroRNA-146a is a negative regulator of IL-33 stimulated mouse mast cells. **M. Taruselli, A.A. Qayum and J. Ryan.** Virginia Commonwealth Univ. Sch. of Med. and Virginia Commonwealth Univ.
- HYP.426 **105.17** A novel role for the adapter molecule NHERF1 in regulating mast cell-mediated anaphylaxis. **A. Kammala and H. Subramanian.** Michigan State Univ.
- HYP.427 **105.18** Cryptotanshinone Inhibits IgE-mediated Degranulation through Inhibition of Syk and Lyn Phosphorylation in Mast Cells. **Y. Yang.** Sookmyung Women's Univ., South Korea.

106. IMMUNE MECHANISMS OF HUMAN DISEASE

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- HUM.428 **106.1** MicroRNA let-7i reprograms glycolysis metabolism to regulate T cell activation and function in dilated cardiomyopathy. **P. Sun, H. Zhang, M. Liu, Y. Zheng, S. Zhang, X. Zheng, G. Mang, Y. Sun, J. Wu and M. Zhang.** the Second Affiliated Hosp. of Harbin Med. Univ., China.

- HUM.429 **106.2** Diffuse panbronchiolitis in a patient with humoral immunodeficiency successfully treated with erythromycin. **S. Saridakis, M. Sandhu, D. Jhaveri, R. Hostoffer, M. Matta and H. Tcheurekdjian.** Ohio Univ. Heritage Col. of Osteopathic Med., Univ. Hosp. Cleveland Med. Ctr., Allergy Immunology Associates, Inc, Univ. Hosp. Cleveland Med. Ctr. and Case Western Reserve Univ.
- HUM.430 **106.3** Inflammatory markers in relation to pre-pubertal obesity. **D. Dinov and A. Khait.** Western Univ. of Hlth. Sci. and Loma Linda Univ.

107. B CELLS AND B/T CELL INTERACTIONS

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- IRC.432 **107.1** Toll-like receptor 9 signaling antagonizes B cell antigen capture, processing and presentation resulting in a failure to activate helper T cells. **M. Akkaya, B. Akkaya, A. Kim, P. Miozzo, H. Sohn, M. Pena, A. Roesler, B. Theall, J. Lu and S. Pierce.** NIAID, NIH.
- IRC.433 **107.2** Follicular Regulatory T cells Positively Regulate Follicular Helper T Cells, Germinal Ctr. B Cells and IgE Response in Peanut Allergic Mice. **M. Xie, H. Liu and A. Dent.** Indiana Univ. Sch. of Med.
- IRC.434 **107.3** Elucidating synergistic and antagonistic effects of B cell receptor and toll-like receptors 3, 4, and 9 in B cell activation. **B. Theall, T. Henke, A. Roesler, B. Akkaya, M. Pena, C. Cimperman, Y. Tadesse, S. Pierce and M. Akkaya.** NIAID, NIH.
- IRC.435 **107.4** Pam3CSK4 Induces B Cells to Release FasL⁺ Killer Exosomes That Suppress Allergic Asthma. **S. Lundy, J. Yang, S. Taitano and L. van der Vlugt.** Univ. of Michigan Med. Sch.
- IRC.436 **107.5** B lymphocytes are a major source of IL-27 that drives class-switched antibody responses and anti-viral immunity through paracrine targeting of B cells and T follicular helper cells. **H. Yan, R. Wang, M. Fernandez, C. Rivera, H. Sanchez, X-D. Li, N. Zhang, H. Zan, X-Z. Meng, R. Kedl, C. Hunter, Y. Xiang, P. Casali and Z. Xu.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, Univ. of Colorado Sch. of Med. and Univ. of Pennsylvania Sch. of Vet. Med.
- IRC.437 **107.6** Neuritin Is Required for T Regulatory Cell-Mediated Suppression of the Long-Lived Plasma Cell Niche. **J. Cooper, S. Newman, S. Egan, A. Utley, K. Lee and J. Barbi.** Roswell Park Cancer Inst. and Univ. at Buffalo, State Univ. of New York.
- IRC.438 **107.7** TNFα Inhibits the Expression of Germinal Ctr. Phenotype on T-bet⁺ CD11c⁺ IgM Memory B Cells without Altering Clonal Diversity. **M. Popescu and G. Winslow.** State Univ. of New York Upstate Med. Univ.
- IRC.439 **107.8** Syndecan-1 (CD138) Regulates Competition Between Antibody Secreting Cells for Survival. **D. Fooksman and M. McCarron.** Albert Einstein Col. of Med.
- IRC.440 **107.9** Dissecting the contribution of antigen-dependent B cell receptor engagement and T cell help to Germinal Ctr. B cell selection and differentiation. **I. Grigoroza and J. Turner.** Univ. of Michigan Med. Sch.
- IRC.441 **107.10** Over-expression of BDNF in Primary Mouse B cells. **V. Torres, T. Matsui and A. Stowe.** Univ. of Texas Southwestern Med. Ctr.

- IRC.442 **107.11** DC subsets are functionally specialized to induce GC-dependent or -independent humoral immune responses. **A. Bouteau, S. Zurawski, G. Zurawski and B. Igyártó.** Baylor Inst. for Immunology Res. and Baylor Univ.
- IRC.443 **107.12** Induction of class-switched and somatically hypermutated primary and anamnestic antibody responses by TLR-BCR co-engagement in *Tcrβ*^{-/-}*Tcrδ*^{-/-} and NSG/B-cell mice and NSG/B-cell mice. **C. Rivera, X. Li, H. Yan, D. Chupp, J. Taylor, H. Zan, Z. Xu and P. Casali.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- IRC.444 **107.13** Deconstructing T-B interactions by manipulation of IRF4 to understand regulation of T follicular helper cells. **E. Sievert, S. Cook and R. Sciammas.** Univ. of California, Davis and Ctr. for Comparative Med., Sch. of Vet. Med., Univ. of California, Davis.
- IRC.445 **107.14** Humoral immune response modulation by aryl hydrocarbon receptor activation (AhR) in CD11c⁺ Cells: exploring gender-specific and ligand-dependent effects on antibody responses in mice. **J. Kreitinger, C.B. Shepherd and D. Shepherd.** Univ. of Montana.
- IRC.446 **107.15** Dampening the B Cell Response, a modified lipid story. **T. Waseem, B. Gjurich, M. Butcher, A. Moriarty, W. Keeter and E. Galkina.** Eastern Virginia Med. Sch. and NIAID, NIH.
- IRC.447 **107.16** Hepatic CD1d⁺ B cells reduce immune-mediated drug-induced hepatitis in male BALB/c mice and account for sex bias in hepatitis severity seen in this disease. **D. Njoku, M. Nyandjo, A. Hamad and M. Cottagiri.** Johns Hopkins Univ. Sch. of Med.
- IRC.448 **107.17** Human germinal center B cells are intrinsically able to discriminate antigen affinity and with T cell help express plasma cell transcription factors. **A. Saniee, K. Kwak, N. Quizon, H. Sohn, J. Manzella-Lapeira, P. Holla, J. Lu, H.Y. Xie, C. Xu, K. Spillane, P. Tolar and S. Pierce.** NIAID, NIH.
- 108. METABOLOME, HOST DEFENSE, AND TISSUE INJURY**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- IRC.449 **108.1** Marijuana THC treatment led to decreased metabolic functions of Staphylococcal enterotoxin B-activated lymphocytes. **A. Mohammed, H. Alghetaa, P. Nagarkatti and M. Nagarkatti.** Univ. of South Carolina Sch. of Med.
- IRC.450 **108.2** Adipose T cell microRNAs influence the T cell expansion, microbiome and macrophage function during obesity. **U. Singh, N. Singh, E.A. Murphy, S. Singh, R. Price, M. Nagarkatti and P. Nagarkatti.** Univ. of South Carolina Sch. of Med., Univ. of South Carolina and Morehouse Sch. of Med.
- IRC.451 **108.3** ADAMTS7 extracellular matrix enzyme expression is required for optimal influenza-specific CD8⁺T cell immunity. **J. Stambas, M. McMahon, S. Ye, D. Dlugolenski, R. Tripp and D. McCulloch.** Deakin Univ., Australia and Univ. of Georgia.
- IRC.452 **108.4** PD-1H facilitates phagocytic clearance of HIV infected T cells by monocyte derived macrophages and dendritic cells. **S. Petersen, X. Xu, C. Camarillo and G. Yi.** Texas Tech Univ. Hlth. Sci. Ctr.
- IRC.453 **108.5** Influenza-Induced Interferon- γ Promotes Alveolar Macrophage Depletion during Secondary Pneumococcal Infection. **S. Bansal, V. Yajjala, C. Bauer and K. Sun.** Univ. of Nebraska Med. Ctr.
- IRC.454 **108.6** Gut dysbiosis and immunological profile in endometriosis. **H. Alghetaa, A. Mohammed, M. Nagarkatti and P. Nagarkatti.** Sch. of Med., Univ. of South Carolina, Columbia.
- IRC.455 **108.7** Epithelial Cell Control of Adaptive Immune Plasticity in Periodontal Dis. **S. Wallet, A. Delitto, F. Rocha, B. Amador and H. Sorenson.** Univ. of Florida.
- IRC.456 **108.8** The Mechanosensitive Ion Channel, Transient Receptor Potential Vanilloid 4 (TRPV4) in Macrophages Regulates the Host Def. Response to Bacterial Pneumonia. **R. Scheraga, S. Abraham, L. Grove, B. Southern, J. Crish, T. Lumpkin, T. Hamilton, C. McDonald and M. Olman.** Cleveland Clin. Fndn.
- IRC.457 **108.9** Physiological microbial exposure has the capacity to substantially influence inflammatory responses in vivo. **F. Sjaastad, M. Pierson, M. Huggins, D. Danahy, V. Badovinac, T. Griffith and S Hamilton.** Univ. of Minnesota and Univ. of Iowa.
- IRC.458 **108.10** Secondary damage or viral infection following mild traumatic brain injury impedes tissue repair induced by distinct myeloid cell subsets. **M. Russo and D. McGavern.** NINDS, NIH.
- IRC.459 **108.11** Modulation of inflammatory responses in heart failure via activation of alpha-7 nicotinic acetylcholine receptor agonist GTS-21. **X. Mai, M. Kha, S. Chow, J. Cameron and S. O'Barr.** Western Univ. of Hlth. Sci.
- IRC.500 **108.12** Role of Astrocyte Activation in Experimental Cerebral Malaria. **A. Tunon-Ortiz, T. King, P. Mimche and T. Lamb.** Univ. of Utah and Emory Univ.
- IRC.501 **108.13** The response of CD8T cells to antigenic stimulation is controlled by their endogenous circadian clock. **C. Nobis, G. Dubeau-Laramée, N. Cermakian and N. Labrecque.** Univ. of Montreal, Canada, Douglas Inst., Canada and McGill Univ., Canada.
- IRC.502 **108.14** Changes in metabolic phenotype and cellular ATP production during CD4⁺ T cell activation. **N. Romero, P. Swain, Y. Kam and B. Dranka.** Agilent Technologies.
- IRC.503 **108.15** Endogenous cannabinoid, anandamide mitigates acute lung injury by altering the microbiome and metabolome profile in the gut-lung axis with the induction of an anti-inflammatory response. **M. Sultan, P. Nagarkatti and M. Ngarkatti.** Univ. of South Carolina Sch. of Med.
- IRC.504 **108.16** CD5 expression influences T cell metabolism and mice behavior. **C. Freitas, T. Cox, D. Johnson and K.S. Weber.** Brigham Young Univ.

SUNDAY—POSTER SESSIONS

- IRC.505 **108.17** Dendritic cell expressed H-2D^b is required for generating antiviral CD8⁺ T cell responses and blood brain barrier disruption during Theiler's virus infection. **Z. Tritz, C. Malo, L. Yokanovich, F. Jin, M. Hansen and A. Johnson.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Mayo Clin.
- IRC.506 **108.18** Hypoxia-induced reactive oxygen species contribute to immune checkpoint molecule expression in T cells undergoing rapid clonal proliferation. **R. O'Connor, L. Guo, S. Ghassemi, N. Snyder, A. Worth, L. Weng, S. O'Brien, Y. Kam, B. Philipson, S. Nunez-Cruz, J. Lee, K. Wellen, T. Busch, E. Moon, I. Blair, C. June and M. Milone.** Univ. of Pennsylvania, Drexel Univ. and Agilent Technologies.
- IRC.507 **108.19** Tumour-elicited neutrophils engage mitochondrial metabolism to circumvent nutrient limitations and maintain immune inhibition. **C. Rice, L. Davies, J. Subleski, N. Maio, C. Andrews, M.G. Cotto, J-M. Lee, C. Annunziata, T. Rouault, S. Durum and D. McVicar.** NCI, NIH, DII/Cardiff Univ., United Kingdom and NICHD/NIH.
- IRC.508 **108.20** Microbiota Regulation of Pro-atherogenic Phagocytes—Separating Metabolic and Inflammatory Mechanisms. **S. Eshghjoo, Y. Ding, C. Hunt, A. Jayaraman and R. Alaniz.** Texas A&M Hlth. Sci. Ctr. and Texas A&M Univ.
- IRC.509 **108.21** Sodium Pyruvate Alters the Immune Response to Influenza A Virus Infection in Macrophages. **H. Abysalamah.** Missouri State Univ.
- IRC.510 **108.22** Neuroprotective roles of fractalkine in multiple sclerosis: characterization of novel humanized animal model. **S. Cardona, S. Kim, V. Torres, C-Y. Hung, K. Church, I. Cleary, A. Mendiola, S. Saville, S. Watowich, J. Parker-Thornburg, D. Littman, R. Ransohoff and A. Cardona.** Univ. of Texas, San Antonio, New York Univ., Univ. of Texas Southwestern Med. Ctr., Grand Valley State Univ., Univ. of California, San Francisco, Univ. of Texas, MD Anderson, New York Univ. Sch. of Med. and Biogen Idec.
- IRC.511 **108.23** Self-reactivity controls the basal metabolism and in vivo function of CD4 T cells. **A. Milam, J. Bartleson, D. Donermeyer, S. Horvath, C-H. Chang, M. Buck, W. Lam, V. Durai, S. Raju, H. Yu, B. Zinselmeier, K. Murphy, E. Pearce and P. Allen.** Washington Univ. in St. Louis, Jackson Lab., Max Planck Inst. for Immunobiology and Epigenetics, Germany, Washington Univ. Sch. of Med. in St. Louis and Ludwig Inst. for Cancer Res.
- IRC.512 **108.24** Triaging the innate immune system: responding to lung infections suppresses the dermal wound healing response. **A. Jamieson, M. Crane, Y. Xu, W. Henry and J. Albina.** Brown Univ. and Rhode Island Hosp.
- IRC.513 **108.25** VCAM-1 might be a potential angiogenic biomarker for Metal-on-Metal prosthetic device and FSH-induced inflammation. **S. Wood and J. Jamison.** CDRH, FDA and Univ. of Arkansas.
- IRC.514 **108.26** Ssu72 phosphatase is involved in immunometabolism. **S-Y. Lee, E-J Park, S. Kim and C-W Lee.** Sungkyunkwan Univ., South Korea.

109. INNATE IMMUNITY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- IRM.516 **109.1** Characterizing the function of the CD300e immunoregulatory molecule. **K. Chen, P. Silveira, T.H. Lo, D. Hart and G. Clark.** ANZAC Res. Inst., Australia and The Univ. of Sydney, Australia.
- IRM.517 **109.2** Leptin-stress response axis promotes allergic airway inflammation. **X. Yang, H. Zheng, X. Zhang, D. Wu, Y. Luo, X. Yang, C. Chock and M. Liu.** Univ. of New Mexico Sch. of Med. and Hunan Agr. Univ., China.
- IRM.518 **109.3** Comparison of the immunomodulatory and epigenetic regulatory effects of natural estrogen 17- β estradiol and its synthetic analog 17 α -ethinyl estradiol in NZB/W_{F1} mice. **R. Dai, M. Edwards, B. Heid and S.A. Ahmed.** Virginia Polytechnic Inst. and State Univ.
- IRM.519 **109.4** Resveratrol protects experimental *Staphylococcus aureus* enterotoxin B (SEB)-induced acute liver injury (ALI) by regulating microRNAs associated with myeloid-derived suppressor cells. **N. Singh, S. Kadhim, U. Singh, P. Nagarkatti and M. Nagarkatti.** Univ. of South Carolina Sch. of Med.
- IRM.520 **109.5** Critical role of miR-23b in late sepsis-induced immunosuppression. **D. Yin, Y. Caudle and H. Zhang.** East Tennessee State Univ.
- IRM.521 **109.6** p38 MAPK is critical for nuclear translocation of IRF-7 during CpG-induced type I IFN expression in human plasmacytoid dendritic cells. **Q. Wang, N. Reszka-Blanco, L. Cheng, G. Li, L. Zhang and L. Su.** Univ. of North Carolina, Chapel Hill, Inst. of Biophysics and Chinese Acad. of Sci., China.
- IRM.522 **109.7** Particulate Matter As a Novel NLRP3 Inflammasome Activator Promotes Macrophage Inflammation in Air Pollution. **X. Rao, J. Zhong, L. Duan, C. Xia and S. Rajagopalan.** Case Western Reserve Univ.
- IRM.523 **109.8** Effects of TLR 7 and 8 agonists on human monocyte activation and differentiation. **N. Kayraklioglu and D. Klinman.** NCI, NIH and Hacettepe Univ. Cancer Inst., Turkey.
- IRM.524 **109.9** NF- κ B c-Rel Dictates the Inflammatory Threshold by Acting as a Transcriptional Repressor. **P. Ramakrishnan, T. de Jesus and S. Shukla.** Case Western Reserve Univ.
- IRM.525 **109.10** Detection of chicken interleukin-23, a heterodimeric cytokine with monoclonal antibodies reacting p19 and p40 subunits. **W. Kim, Y. Lim and H. Lillehoj.** USDA-ARS.
- IRM.526 **109.11** Regulation and In Vivo Function of Dendritic Cell CTLA-4. **M. Halpert, J. Vasquez-Perez, V. Konduri, Y. Chen, D. Liang, J. Levitt and W. Decker.** Baylor Col. of Med.
- IRM.527 **109.12** Keratinocytes affect biology of Langerhans cells through mRNA transfer. **Q. Su and B. Igyártó.** Baylor Inst. for Immunology Res.

- IRM.528 **109.13** Prohibitin-1 and -2 have diverse cell-autonomous effects on inflammatory signaling. **C. Psaltis, J. Aloor, S. Reece, B. Kilburg-Basnyat, J. Robidoux, M. Fessler, E. Anderson and K. Gowdy.** East Carolina Univ., NIEHS, NIH and Univ. of Iowa.
- IRM.529 **109.14** The role of ERK2 in bone marrow-derived dendritic cells development and function. **S. Jeffreys, T. Forsthuber and A. Negron.** Univ. of Texas, San Antonio.
- IRM.530 **109.15** The NLR4 inflammasome regulates extra- and intra-macrophage expression of its own pathogen-derived ligand flagellin to impact *Salmonella* survival. **A. Akhade, S. Atif, B. Lakshmi, A. Qadri and N. Subramanian.** Natl. Inst. of Immunology, India, India and Inst. for Sys. Biol.
- IRM.531 **109.16** *Heatr9* is upregulated during influenza virus infection in lung alveolar epithelial cells. **C. Stairiker, Y. Mueller, M.v. Meurs, I. Brouwers-Haspels, S. Erkeland and P. Katsikis.** Erasmus Med. Ctr., Netherlands and Drexel Univ. Col. of Med.
- IRM.532 **109.17** STAT5b Isoform Controls IgE-mediated Mast Cell Function. **K. Kiwanuka and J. Ryan.** Virginia Commonwealth Univ.
- IRM.533 **109.18** Effect of the blocking by monoclonal antibodies of TLR2 and CD14 receptors on the expression of intracellular signaling molecules and the production of cytokines in THP-1 macrophages infected with *Mycobacterium tuberculosis*. **A.A. Mendoca, A. Rosas-Taraco, V.G. Rodriguez, E.M. Zapata and A.L. Flores.** Fac. of Med., U.A.N.L., Mexico and Universidad Autonoma de Nuevo Leon, Mexico.
- IRM.534 **109.19** Structural, functional, and evolutionary differences between PD-L1 and PD-L2. **E. Philips, A. Techova, A. Mor and X. Kong.** New York Univ. Sch. of Med.
- IRM.535 **109.20** Immunization elicits antigen-specific antibody sequestration in sensory neurons. **S. Chavan, M. Gunasekaran, P. Chatterjee, A. Shih, G. Kumar, A. Lee, J. Graf, D. Meyer, M. Marino, C. Puleo, J. Ashe, C. Metz and K. Tracey.** Feinstein Inst. for Med. Res. and GE Global Res. Ctr.
- IRM.536 **109.21** A Non-Canonical Role for Interferon Regulatory Factor 3 Downstream of the Interferon Gamma Receptor. **Z. Guinn and T. Petro.** Univ. of Nebraska and Univ. of Nebraska Med. Ctr.
- IRM.537 **109.22** Lipocalin2 mediates anti-inflammatory functions through the inhibition of STAT3 and activation of STAT5 signaling in bone marrow derived macrophages. **J. Samuels, S. Rayalam and R. Shashidharamurthy.** Philadelphia Col. of Osteopathic Med.
- IRM.538 **109.23** Intragenic transcriptional interference regulates the human immune ligand MICA. **C. O'Callaghan, D. Lin and T. Hiron.** Univ. of Oxford, United Kingdom.
- IRM.539 **109.24** Chromatin accessibility modulates the induction of innate immunity in cells of myeloid lineage. **R. Song, I. Dozmorov, B. Wakeland, C. Arana, C. Liang, B. Zhang, J. Zhou, C. Pasare and E. Wakeland.** Univ. of Texas Southwestern Med. Ctr.
- IRM.540 **109.25** Roles for MS4A4 in FcεRI signal transduction and store-operated calcium entry in human mast cells. **G. Arthur and G. Cruse.** North Carolina State Univ.
- IRM.541 **109.26** MARVELD1 promotes survival during septic shock in mice. **M. Shi, X. Zhang, K. Fu, X. Chen, S. Zhang, Y. Tang, Z. Ma and Q. Wu.** Harbin Inst. of Technol., China.

110. MOLECULAR MECHANISMS OF T HELPER CELL DIFFERENTIATION AND RESPONSES

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- IRM.542 **110.1** Separation of RORγ function in Thymocyte development and Th17 differentiation. **Z. Sun, Z. He and J. Ma.** Beckman Res. Inst., City of Hope.
- IRM.543 **110.2** GPR65, a critical regulator of Th17 cell pathogenicity, is regulated by the CRTCL2/CREB pathway. **J. Hernandez.** Keck Grad. Inst. Sch. of Pharmacy.
- IRM.544 **110.3** Regulation of Notch activation in CD4⁺ T cells. **A. Mitra, J. Torres, S. Shanthalingam, J. Vijayaraghavan, R. Lawlor and B. Osborne.** Univ. of Massachusetts.
- IRM.545 **110.4** TRAF6-TAK1 signaling drives Th9 differentiation. **S.A. Park, H. Nakatsukasa and W. Chen.** NIDCR, NIH.
- IRM.546 **110.5** T-cell intrinsic RIP2 regulates pathogenic Th17 differentiation in chronic lung and vascular inflammation. **R. Porritt, K. Shimada, T. Crother, M.N. Rivas, S. Chen and M. Ardit.** Cedars-Sinai Med. Ctr.
- IRM.547 **110.6** 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD) attenuates inflammatory response to pertussis toxin by induction of Tregs and immunosuppressive cytokine production via microRNA modulation. **Z. Al-Ghezi, P. Mehrpouya-Bahrami, M. Nagarkatti and P. Nagarkatti.** Univ. of South Carolina, Sch. of Med.
- IRM.548 **110.7** Bcl6 interacting corepressor contributes to CD4⁺ T helper 17 cell formation by repressing CD27 and Foxo1 signaling. **J. Kotov, M. Gearhart, V. Bardwell and M. Jenkins.** Univ. of Minnesota.
- IRM.549 **110.8** T cell intrinsic IL-1R signaling licenses effector cytokine production by memory CD4 T cells. **A. Jain, R. Song, E. Wakeland and C. Pasare.** Univ. of Texas Southwestern Med. Ctr.
- IRM.550 **110.9** Inhibition of Inositol-Requiring Enzyme 1 α in Established T_H2 Cells Decreases the Secretion of Cytokines IL-5 and IL-13, but Not IL-4. **K. Kemp, C. Poe and C. Youngblood.** Northeastern State Univ.
- IRM.551 **110.10** Pioneer transcription factor BATF controls chromatin accessibility and CTCF-mediated chromatin architecture in CD4⁺ T cells. **D. Pham, C. Moseley, D. Savic, R. Myers, B. Kee, R. Hatton and C. Weaver.** Univ. of Alabama, Birmingham, St. Jude Children's Res. Hosp., HudsonAlpha Inst. for Biotech. and Univ. of Chicago.
- IRM.552 **110.11** BCAP, a novel TLR-IL1R signaling adapter, regulates the differentiation of pathogenic Th17 cells. **K. Deason, T. Troutman, A. Jain and C. Pasare.** Univ. of Texas Southwestern Med. Ctr. and Univ. of California, San Diego.
- IRM.553 **110.12** FOXP3 protects human T cells from restimulation-induced cell death via CD48 upregulation and autophagy. **K. Voss, C. Dalgard, S. Arjunaraja, B. Dorjbal and A. Snow.** Uniformed Serv. Univ. of the Hlth. Sci.

SUNDAY—POSTER SESSIONS

- IRM.554 **110.13** IL-6 counteracts IL-2-dependent suppression of T follicular helper cell responses. **A. Papillion, H. Bachus, M. Fuller, B. León and A. Ballesteros-Tato.** Univ. of Alabama, Birmingham.
- IRM.555 **110.14** Prenatal exposure to cadmium alters the transcriptome of regulatory T cells in C57BL/6 mice and may contribute to immunological health of the offspring. **J. McCall, M. Elliot, E. Nowak, F. Damron and J. Barnett.** West Virginia Univ.
- IRM.556 **110.15** WITHDRAWN.
- IRM.557 **110.16** AP-1 transcription factor remodels chromatin during T cell activation. **A. Barski, M. Yukawa, S. Jagannathan, A. Kartashov, X. Chen and M. Weirauch.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med.
- IRM.558 **110.17** The cytoplasmic domain of CTLA-4 inhibits effector T cell responses and autoimmunity via increasing regulatory T cells in mice. **S. Lim, H-G. Lee, G-R. Kim and J-M. Choi.** Hanyang Univ., South Korea.
- 111. REGULATION OF INNATE AND CYTOTOXIC LYMPHOCYTE RESPONSES: MOLECULAR MECHANISMS**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- IRM.600 **111.1** Staying Alive! Signal Processing by NF- κ B Protects NKT Cells From TNFR1-Triggered Death. **A. Kumar, L. Gordy, J. Bezbradica, A. Stanic, T. Hill, M. Boothby, L.V. Kaer and S. Joyce.** Veterans Admin. Tennessee Valley Healthcare Syst., Vanderbilt Univ. Sch. of Med., The Kennedy Inst. of Rheumatology, Univ. of Oxford, United Kingdom, Univ. of Wisconsin, Madison and United States Military Academy.
- IRM.601 **111.2** The NF-kappa B regulator Bcl-3 controls T cell differentiation during challenge with the lymphocytic choriomeningitis virus. **H. Jaiswal and U. Siebenlist.** NIAID, NIH.
- IRM.602 **111.3** A critical role of NLRP3 inflammasome in boosting antigen-specific immunity. **Y. Qian.** Shanghai Inst. for Biological Sci. and Chinese Acad. of Sci., China.
- IRM.603 **111.4** Bhlhe40 maintains CD8+ T cell fitness and functionality in non-lymphoid tissues and tumors. **C. Li, R. Taneja and J. Sun.** Mayo Clin. and Natl. Univ. of Singapore.
- IRM.604 **111.5** The impact of target stiffness on NK cell activation. **D. Friedman, A. Hale, M. White and D. Davis.** Manchester Collaborative Ctr. for Inflammation Res., and Univ. of Manchester, United Kingdom.
- IRM.605 **111.6** IL-33 induces ILC2 mobilization by modulating cell surface expression of CXCR4 in sepsis. **Q. Shu, D. Lai and J. Fan.** The Children's Hosp. of Zhejiang Univ. Sch. of Med., China, Univ. of Pittsburgh Sch. of Med., and Res. and Develop., Veterans Affairs Pittsburgh Healthcare Syst.
- IRM.606 **111.7** WITHDRAWN.
- IRM.607 **111.8** Aryl-hydrocarbon receptor-driven responses of innate lymphocytes. **A. Stojanovic, M. Correia, K. Klein, P. Angel, M. Platten, K. Müller-Decker and A. Cerwenka.** German Cancer Res. Ctr. and Germany and Ruprecht Karls Univ., Germany.
- IRM.608 **111.9** LSD1 regulates PD-1 expression through interactions with Blimp-1 during acute viral infection. **D. Neeld, A. Bally, P. Majumder, B. Barwick and J. Boss.** Emory Univ. Sch. of Med.
- IRM.609 **111.10** Functional dissection of a novel IL-22 super-enhancer. **A. Saini, S. Li, J. Bando, P. Collins, M. Cella, M. Colonna and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis.
- IRM.610 **111.11** A novel double edged sword in T cell development and function: receptor-interacting protein Kinase 1 (RIPK1). **N. Thiault, A. Chen, G. Verstichel, J. Huysentruyt, P. Vandenabeele and H. Cheroutre.** La Jolla Inst. for Allergy and Immunology, VIB Ctr. for Inflammation Res., Ghent, Belgium and Ghent Univ., Belgium.
- IRM.611 **111.12** Normoxic to hypoxic switch of pre-activated NK cells leads to robust proliferation and enhanced effector function via stabilization of HIF-1 α and inhibition of apoptosis. **J. Kim, S.A. Lim, Y. Moon, M.H. Shin, Y. Cassian, H. Park and K-M. Lee.** Korea Univ. of Korea Col. of Med., South Korea, Univ. of Seoul, South Korea, and MD Anderson Cancer Ctr.
- IRM.612 **111.13** Inhibition of IFN-I signaling redirects STAT1 through the IL27R to enhance the generation of CXCR5+ follicular cytotoxic T cells. **Z. Huang, J. Zak, I. Pratumchai and J. Teijaro.** Scripps Res. Inst.
- IRM.613 **111.14** Critical role of ASK signaling in promoting inflammatory disease in *Ptpn6^{SPIN}* mice. **S. Tartey and T-D. Kanneganti.** St.Jude Children's Res.Hosp.
- 112. T CELL SIGNALING: MEMBRANE TO NUCLEUS**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- IRM.614 **112.1** TRAF3-mediated regulation of the T cell receptor complex. **T. Arkee, A. Wallis and G. Bishop.** Univ. of Iowa.
- IRM.615 **112.2** A transient Malt1 aggresome sustains T cell receptor signaling to NF- κ B. **M. Traver, L. Campanello, C. Huaman, S. Paul, H. Shroff, W. Losert and B. Schaefer.** Uniformed Serv. Univ. of the Hlth. Sci., Univ. of Maryland, Johns Hopkins Univ. Sch. of Med. and NIBIB, NIH.
- IRM.616 **112.3** Identification of a T cell immunomodulatory domain in histidyl-tRNA synthetase. **E. Mertsching, J. Ampudia, R. Adams, S. Rosengren, L. Nangle, J. Mendlein, A. Cubitt, F. Ramsdell, K. Ogilvie and D. King.** aTyr Pharma and Parker Inst. for Cancer Immunotherapy.
- IRM.617 **112.4** The IRF4 gene regulatory module functions as a read-write integrator to dynamically control T helper cell fate. **R. Sciammas, V. Krishnamoorthy, S. Kannanganat, M. Maienschein-Cline, S. Cook, J. Chen, N. Bahroos, E. Corse and A. Chong.** Ctr. for Comparative Med., Sch. of Vet. Med., Univ. of California, Davis, Univ. of California, Davis, Houston Methodist Res. Inst., Univ. of Illinois, Chicago, Univ. of Chicago and Roche Innovation Ctr., Switzerland.

- IRM.618 **112.5** CCDC134 facilitates T cell activation and inflammatory responses by regulating T-cell receptor signaling. **J. Huang, T. Zhang, B. Yu, Y. Wang, S. Yin and X. Qiu.** Sch. of Basic Med. Sci., Peking Univ. Hlth. Sci. Ctr. China.
- IRM.619 **112.6** Global phosphoproteomic analysis of PD-1 signaling reveals T cell subset specific PD-1 functions. **A. Tocheva, M. Peled, S. Nayak, E. Philips, B. Ueberheide and A. Mor.** New York Univ. Sch. of Med.
- IRM.620 **112.7** GRK2 transactivation of CXCR4 is required for TCR-mediated TCR-CXCR4 complex formation. **B. Dinkel, K. Kremer, M. Rollins, M. Medlyn and K. Hedin.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Mayo Clin.
- IRM.621 **112.8** Notch signaling is protective in splenic T cells against apoptosis during endotoxemia via TLR4/Myd88/TRIF/iNOS/NO/TACE pathway. **Chenxuan Yang, Meihong Deng, Melanie Scott, Timothy Billiar.** Univ. of Pittsburgh and Tsinghua Univ., China.
- IRM.622 **112.9** Tuning of TCR signaling pathways in chronically stimulated CD4⁺ T cells in vivo. **C. Matson and N. Singh.** Univ. of Maryland, Baltimore.
- IRM.623 **112.10** Comparison of the open chromatin landscapes of effector and anergic T helper cells. **A. Torres, M. Johnson and A. Wells.** Children's Hosp. of Philadelphia
- IRM.624 **112.11** CD28 co-stimulation drives memory phenotype (MP) Treg cell and MP CD4⁺Foxp3⁺ effector T cell homeostatic proliferation. **A. Panda and E. Shevach.** NIAID, NIH.
- IRM.625 **112.12** The transcription factor T-bet is regulated by microRNA-155 in murine anti-viral CD8⁺ T cells via SHIP-1. **J. Hope, C. Stairiker, P. Spantidea, D. Gracias, A. Carey, A. Fike, M.v. Meurs, I. Brouwers-Haspels, L. Rijsbergen, J. Fraietta, Y. Mueller, R. Klop, E. Stelekati, E.J. Wherry, S. Erkeland and P. Katsikis.** Drexel Univ. Col. of Med., Sanford Burnham Prebys Med. Discovery Inst., Erasmus Med. Ctr., Netherlands and Univ. of Pennsylvania.
- IRM.626 **112.13** Regulation of TCR signaling by CD2AP in CD4 T cells modulates antibody responses to chronic LCMV infection. **S. Raju, A. Shaw and T. Egawa.** Washington Univ. Sch. of Med. in St. Louis and Genentech, Inc.
- IRM.627 **112.14** CD99 facilitates rearrangement of actin cytoskeleton during T cell activation. **G. Nam and E.Y. Choi.** Seoul Natl. Univ. Col. of Med., South Korea.
- EDU.631 **113.4** The prevalence of digital note-taking trends in professional pharmacy students. **M. Hussein, A. Lana, B. Reda, M. Bizuayehu-Mekonnen, M. Nassan and N. Fazal.** Chicago State Univ.
- EDU.632 **113.5** Too many B cells, when food fights back, and hacking T cells: the effective use of case studies to teach methods in an undergraduate Immunology course. **B. Dinkel and D. Walser-Kuntz.** Mayo Clin. Grad. Sch. of Biomed. Sci. and Carleton Col.
- EDU.633 **113.6** The incorporation of self-directed learning for english second language learners within postgraduate Clinical Health Sciences. **D. Sika-Paotonu and C. Tait.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.634 **113.7** Just-in-time active learning instructional pedagogy for PharmD integrated immunology course. **C. Madiraju, E. Tellez-Corrales, H. Hua and D. Brown.** Marshall B. Ketchum Univ., Univ. of Nebraska-Lincoln.
- EDU.635 **113.8** The role of food allergy education in schools: measuring attitudes, beliefs, and knowledge. **N. Canon, M. Gharfeh, S. Anvari and C. Davis.** Baylor Col. of Med. and Texas Children's Hosp.
- EDU.636 **113.9** Knowledge translation for cancer immunotherapy and Immunology that is culturally appropriate and relevant within a Pacific context. **D. Sika-Paotonu and L.W. Laban.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.637 **113.10** The utilization of scientific language communication techniques to enhance immunology education for postgraduate clinical health science students. **D. Sika-Paotonu and C. Tait.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand and Sch. of Educ. and Victoria Univ. of Wellington, New Zealand.
- EDU.638 **113.11** Enhancing student knowledge and understanding of Immunology using integration of a clinically relevant Immunological condition within postgraduate clinical sciences education. **D. Sika-Paotonu.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.639 **113.12** The utilization of a clinically relevant immunological research case example within undergraduate biomedical sciences education. **D. Sika-Paotonu.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.

113. IMMUNOLOGY EDUCATION

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- EDU.628 **113.1** Teaching vaccine science to a science illiterate world. **N. Martin.** Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- EDU.629 **113.2** Hands on, Minds on: how to create effective, student-driven learning without becoming overwhelmed. **K. Lukin and K. Aviszus.** Western Governors Univ., Univ. of Colorado, Denver and Natl. Jewish Hlth.
- EDU.630 **113.3** The use of concept maps in a non-majors virology class. **H.M. Wols.** Columbia Col. Chicago.

SUNDAY—POSTER SESSIONS

- EDU.640 **113.13** Translating knowledge and raising awareness of immunology related human disease mechanisms via engagement with the general public and lay audience. **D. Sika-Paotonu.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.641 **113.14** The successful use of immunology based Peer Teaching strategies within postgraduate clinical health sciences blended learning education frameworks. **D. Sika-Paotonu.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.642 **113.15** The incorporation of active learner centered strategies to support improved memory recall and classroom engagement within postgraduate education blended learning education frameworks. **D. Sika-Paotonu.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia and Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand.
- EDU.643 **113.16** Improve your publications using research resource identifiers. **R. Vita, A. Bandrowski, J. Grethe and M. Martone.** La Jolla Inst. for Allergy and Immunology and Univ. of California
- EDU.644 **113.17** The antagonist/agonist exam question: thinking like a scientist. **K. Parkin.** Michigan State Univ.
- EDU.645 **113.18** Immunology education for english second language learners within a postgraduate nursing science program in New Zealand. **D. Sika-Paotonu and C. Tait.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand, Sch. of Educ. and Victoria Univ. of Wellington, New Zealand.
- EDU.646 **113.19** Play your way to the finals: an immunology board game project to teach Immunology to undergraduate students. **A. Kucknoor.** Lamar Univ.
- INC.651 **114.4** Innate lymphoid cell composition shift upon *Campylobacter jejuni* induced colitis, a process inhibited by targeting mTOR signaling in *Il10*^{-/-} mice. **Y. Tang, Z. He, J. Shirley, C. Ohland, J. Pope, C. Jobin and S. Glover.** Univ. of Florida and Sun Yat-sen Univ., China.
- INC.652 **114.5** CXCL-1/KC collaborates with CXCL-2/MIP2 to regulate granulopoiesis and recruitment in pneumococcal pneumonia. **S. Paudel, P. Baral, S. Bergeron, L. Ghimire, L. Jin, J. DeCorte, J. Le, S. Cai and S. Jeyaseelan.** Louisiana State Univ. and Harvard Med. Sch.
- INC.653 **114.6** Investigating the antibacterial effect of Sca1⁺ lung mesenchymal stem cells on multidrug resistant bacterial species. **T. Rangasamy, S. Paudel, L. Ghimire, L. Jin, S. Bergeron and S. Jeyaseelan.** Louisiana State Univ.
- INC.654 **114.7** CXCL5 suppresses IL-17A mediated immunity during MRSA-induced pneumonia. **L. Ghimire, S. Bergeron, S. Paudel and S. Jeyaseelan.** Louisiana State Univ.
- INC.655 **114.8** TLR9 regulates host defense via modulation of peritoneal B1 cell recruitment and functions during intra-abdominal sepsis. **M. Deng, L. Xu, R. Hoffmann and T. Billiar.** Univ. of Pittsburgh and Hua Zhong Univ. of Sci. and Technol., China.
- INC.656 **114.9** LIGHT-HVEM Signaling in Group3 Innate Lymphoid Cells Protects Against Enteric Bacterial Infection. **G-Y. Seo, J-W. Shui, D. Takahashi, C. Song, Q. Wang, K. Kim, Z. Mikulski, S. Chandra, D. Giles, S. Zahner, P-H. Kim, H. Cheroutre, M. Colonna and M. Kronenberg.** Kangwon Natl. Univ., South Korea, La Jolla Inst. for Allergy and Immunology, Academia Sinica, Taiwan, Keio Univ., Japan, Washington Univ. Sch. of Med. in St. Louis, Washington Univ. in St. Louis and Univ. of California, San Diego.
- INC.657 **114.10** Neutrophil responses to acute *Mycobacterium tuberculosis* infection in non-human primates. **J.Y. Phuah, B. Junecko and J. Mattila.** Univ. of Pittsburgh Grad. Sch. of Publ. Hlth.
- INC.658 **114.11** Role of *Acinetobacter baumannii* thioredoxin in pulmonary bacterial dissemination following LPS induced lung injury. **H. May, J-J. Yu, M.N. Guentzel and B. Arulananadam.** Univ. of Texas, San Antonio.
- INC.659 **114.12** Innate-like activation of mucosal-associated invariant T cells in mycobacterial infection. **S. Huang, M. Sharma, S. Zhang, L. Niu and X. Zhang.** Univ. of Cincinnati Col. of Med.
- INC.900 **114.13** Balance of IL-21 and type I IFN in the granzyme-dependent innate immune response to *Staphylococcus aureus*. **R. Spolski, E. West, P. Li, M. Kazemian and W. Leonard.** NHLBI, NIH.
- INC.901 **114.14** Alcohol enhances Type 1 Interferon- α and mortality of young mice infected with *Mycobacterium tuberculosis*. **D. Tripathi, E. Welch, S.S. Cheekatla, R.K. Radhakrishnan, S. Venkatasubramanian, P. Paidipally, A. Van, A.R. Tvinnereim, B. Samten, K.P. Devalraju, V.S.K. Neela, V.L. Valluri, C. Mason, S. Nelson and R. Vankayalapati.** Univ. of Texas Hlth. Sci. Ctr. Tyler, Bhagwan Mahavir Med. Res.Ctr., Hyderabad, India and Louisiana State Univ. Hlth. Sci. Ctr., New Orleans.

114. INNATE IMMUNITY TO MICROBES I

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- INC.648 **114.1** IL-18 from Batf3-dependent cells licenses natural killer cell IL-10 production during *Listeria monocytogenes* infection. **S. Clark, R. Schmidt, D. McDermott and L. Lenz.** Univ. of Colorado Sch. of Med.
- INC.649 **114.2** Neutrophil extracellular traps deficiency aggravates *Citrobacter rodentium* infection and the associated intestinal inflammation. **P. Saha, B.S. Yeoh, Y. Wang and M. Vijay-Kumar.** Univ. of Toledo and Pennsylvania State Univ.
- INC.650 **114.3** Dual roles of the bacterial siderophore enterobactin by inducing apoptosis in macrophages and promoting survival advantages to *Salmonella typhimurium*. **P. Saha, X. Xiao, B.S. Yeoh, Q. Chen, B. Katkere, G. Kirimanjeswara and M. Vijay-Kumar.** Univ. of Toledo and Pennsylvania State Univ.

- INC.902 **114.15** T cell-independent mechanisms for protection against *Mycobacterium tuberculosis*. **A. Izzo, E. Creissen, L. Izzo, J. Troutd and T. Bickett** Colorado State Univ.
- INC.903 **114.16** Characterization of Interleukin-17 producing cells in the peripheral blood of patients with tuberculosis. **B. Ruiz-Sánchez, D.C. Zarate, V.G. García-Paredes, A. Hernández-Solis, R.C. Sabido, J. Serafin-López, I. Estrada-García and I. Baeza.** Instituto Politécnico Nacional, México, Mexico, and Natl. Autonomous Univ. of Mexico, Mexico.
- INC.904 **114.17** Microbiota-dependent, keratinocyte-derived CCL20 controls skin immune homeostasis and inflammation. **T.P. Singh, X. Lu, I. Myles, S. Singh, H. Zang, M. Doucet, S. Kominsky, S. Datta and J. Farber.** NIAID, NIH and Johns Hopkins Univ. Sch. of Med.
- INC.905 **114.18** Addition of apoptotic cells alters immune cell function and reduces ankle swelling in experimental Lyme arthritis. **K. Hilliard and C. Brown.** Univ. of Missouri.
- INC.906 **114.19** Antibacterial resistance of severely burned mice treated with an ROR α selective inverse agonist. **I. Ito, M. Kobayashi, C. Finnerty, D. Herndon and F.Suzuki.** Shriners Hosp. for Children, Galveston and The Univ. of Texas Med. Br.
- INC.907 **114.20** Tissue Specific Overexpression of Human Heat Shock Protein 70 in Mouse Oviduct Epithelium Reduces *Chlamydia* Induced Immunopathology. **A. Murthy, K. Keeler, J. Do, A. Seetharaman, K. Ramsey, M. Ciancio and W. Li.** Midwestern Univ.
- INC.908 **114.21** The Mammalian Target of Rapamycin (mTOR)/Peroxisome Proliferator-Activated Receptor γ (PPAR γ) axis drives immune dysfunction and outcome after burn injury. **R. Maile, W. Stepp, T. Eitas and B. Cairns.** Univ. of North Carolina, Chapel Hill and GlaxoSmithKline.
- INC.909 **114.22** Defective innate immune responses lead to hepatic damage in CD154-deficient mice following infection with attenuated *Salmonella typhimurium*. **M. Fernandez-Cabezudo, G. Bashir, A. Al-Sbiei, O. Cabral-Marques and B. Al-Ramadi.** United Arab Emirates Univ., United Arab Emirates and Univ. of Lübeck, Germany.
- INC.910 **114.23** Blocking CXCL1-dependent neutrophil recruitment prevents immune damage and reduces pulmonary bacterial infection after inhalation injury. **R. Maile, J. Dunn, L. Kartchner, S. Jones and B. Cairns.** Univ. of North Carolina, Chapel Hill.
- INC.911 **114.24** Key role for CD103+ DCs in activating lung iNKT cells during *Streptococcus pneumoniae* infection. **C. Crosby, Z. Mikulski and M. Kronenberg.** La Jolla Inst. for Allergy and Immunology.
- INC.912 **114.25** Interferon-Independent Protection by Interferon Regulatory Factor 3. **C. Gyorke and U. Nagarajan.** Univ. of North Carolina, Chapel Hill.
- INC.913 **114.26** Pore-forming toxins impair pro-inflammatory macrophage responses. **R. Thapa, P. Bhattacharjee and Keyel.** Texas Tech Univ.
- INC.914 **114.27** IL-21 regulates NK cell responses during *Mycobacterium tuberculosis* infection. **P. Paidipally.** Univ. of Texas Hlth. Sci. Ctr. Tyler.
- INC.915 **114.28** CARDS toxin is critical for mediating the early inflammatory response during *Mycoplasma pneumoniae* infection. **J. Segovia, S. Somorajan, M. Cagle, J. Baseman and T. Kannan.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.

115. INFLAMMASOMES

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- INM.916 **115.1** Interplay between type I interferon signaling and AIM2 inflammasome in *Francisella novicida* infection. **Q. Zhu and T-D. Kanneganti.** Univ. of Tennessee Hlth. Sci. Ctr. and St. Jude Children's Res. Hosp.
- INM.917 **115.2** ASC phosphorylation at Y146 regulates inflammasome activation and pyroptosis. **C. McAndrew, N. Napolitano, A. Vompe, M. Wewers and M. Gavriliin.** Ohio State Univ.
- INM.918 **115.3** *Clostridium difficile* TcdB toxin differentially regulates pyrin via differences in activity of RhoA between proliferating and non-proliferating mammalian cells. **F. Habyarimana, N. Napolitano, C. McAndrew, S. Mitra, A. Sarkar, M. Gavriliin and M. Wewers.** Ohio State Univ.
- INM.919 **115.4** The Heat Shock Protein, gp96, initiates inflammatory responses by activation of inflammasome signaling platforms in macrophages. **Y. Wang and R. Binder.** Univ. of Pittsburgh Sch. of Med. and Tsinghua Univ., China.
- INM.920 **115.5** Targeting the inflammasome as host directed therapy for *Mycobacterium tuberculosis* and HIV co-infection. **K. Naqvi, M. Huante, T. Saito, S. Chauhan, A. Walker, J. Lisinicchia, B. Gelman and J. Endsley.** Univ. of Texas Med. Br.
- INM.921 **115.6** Anti-Flagellin antibodies dampen TLR5 and NLRC4 innate immune responses to flagellin. **B.S. Yeoh, A. Gewirtz and M. Vijay-Kumar.** Pennsylvania State Univ., Georgia State Univ. and Univ. of Toledo
- INM.922 **115.7** Pyrin Inflammasome Regulates Tight Junction Integrity to Restrict Colitis and Tumorigenesis. **D. Sharma, A. Malik, C. Guy, P. Vogel and T-D. Kanneganti.** St. Jude Children's Res. Hosp.
- INM.923 **115.8** Mitochondrial SLC25 proteins interact with NLRP3 to regulate inflammasome function. **A. Shuvarikov, M. Davis, K. Esser-Nobis and M. Gale.** Univ. of Washington.
- INM.924 **115.9** Collagen, a major extracellular matrix component, promotes NLRP3 inflammasome-dependent and -independent IL-1 β production. **B. Poudel and P. Gurung.** Univ. of Iowa Carver Col. of Med.
- INM.925 **115.10** Novel *Pycard* gene polymorphism impairs Nlpr3 inflammasome-induced IL-1 β production in mice selected for low inflammatory response. **O. Ibañez, N. Starobinas, L. Monteleone, A. Borrego, M. Icimoto, W. Cabrera, O. Ribeiro, M.D. Franco, J. Jensen and T. Dragani.** Butantan Inst., Brazil, Unifesp, Brazil and Istituto Tumori, Italy.

SUNDAY—POSTER SESSIONS

- INM.926 **115.11** Inflammasomes confer protection via IL-18 and pyroptosis, and are negatively regulated by IFN- γ -dependent nitric oxide during *Brucella* infection. **C. Lacey, W. Mitchell and J. Skyberg.** Univ. of Missouri.
- INM.927 **115.12** The oxidized phospholipid oxPAPC ameliorates septic shock by targeting the non-canonical inflammasome in macrophages. **L. Chu, M. Indramohan, R. Ratsimandresy, A. Gangopadhyay, E. Morris, D. Monack, A. Dorfleutner and C. Stehlik.** Feinberg Sch. of Med., Northwestern Univ. and Stanford Univ.
- INM.928 **115.13** Platelet activating factor as a novel danger signal for activation of NLRP3 inflammasome. **M. Deng, W. J. Brickey, H. Guo, J. Tam, B. Johnson, J. S. New, B. Koller, J. Kearney and J. Ting.** Univ. of North Carolina at Chapel Hill, Lineberger Comprehensive Cancer Ctr. and Univ. of Alabama, Birmingham.
- INM.929 **115.14** Gasdermin-D controls cytokine responses in *Francisella* infection. **I. Banerjee, B. Behl, G. Shrivastava, A. Russo, S.K. Vanaja and V. Rathinam.** Univ. of Connecticut Hlth. Ctr. and Centro de Investigación y de Estudios Avanzados, Mexico.

116. PERIPHERAL LYMPHOCYTE DEVELOPMENT AND HOMEOSTASIS

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- LYM.930 **116.1** Distinct lymph node entry efficiencies for CD8+ and CD4+ T cells are eliminated during malnourishment. **M.G. Bupp, D. Gibson, S. Goulmamine, A. Little, S. Murphy, K. Patrick and T. Thoner.** Randolph-Macon Col.
- LYM.931 **116.2** Kmt2d regulates naive CD8 T-cell development and activation-related survival. **J. Kim, K. Ge and N-P. Weng.** NIA, NIH and NIDDK, NIH.
- LYM.932 **116.3** Gimap5-dependent inactivation of GSK3 β is required for CD4+ T cell homeostasis and prevention of immune pathology. **A. Patterson, M. Endale, K. Lampe, A. Flagg, J. Woodgett, J. Bleesing and K. Hoebe.** Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati Col. of Med., Cleveland Clin., The Lunenfeld-Tanenbaum Res. Inst. and Mount Sinai Hosp., Canada.
- LYM.933 **116.4** Transcription Factor TX Is Required for Liver-resident NK cells development. **J. Song, H. Peng, X. Zheng, Y. Chen, H. Wei, R. Sun and Z. Tian.** Univ. of Sci. and Technol. of China, China.
- LYM.934 **116.5** Local and long-range transcriptional regulation of the *Bcl6* locus by Ikaros zinc finger factors. **M. Powell, K. Read, B. Sreekumar, G. Carrillo, V. Ringel-Scaia, H. Bachus, I. Allen, A. Ballesteros-Tato and K. Oestreich.** Virginia Tech Carilion Sch. of Med. and Res. Inst., Virginia Polytechnic Inst. and State Univ., Univ. of Alabama, Birmingham and Virginia-Maryland Regional Col. of Vet. Med.
- LYM.935 **116.6** c-Maf and STAT3 are essential but distinct regulators of ROR γ t+ and follicular regulatory T cells. **J. Wheaton, C-H. Yeh and M. Ciofani.** Duke Univ. Sch. of Med.
- LYM.936 **116.7** TRAF3 regulates Pim2 and c-Myc-mediated B cell survival. **A. Whillock, N. Mambetsariev, W. Lin, L. Stunz and G. Bishop.** Univ. of Iowa Carver Col. of Med.
- LYM.937 **116.8** Cytokine regulation in human CD4 T cells by the Aryl Hydrocarbon Receptor and GPR68. **J. McAleer, J. Fan, B. Roar, D. Primerano and J. Denvir.** Marshall Univ. Sch. of Pharmacy and Marshall Univ. Sch. of Med.
- LYM.938 **116.9** Helios expression defines a phenotypically distinct population of Treg cells. **A. Thornton, P. Korty, Y. Kim, C. Martens and E. Shevach.** NIAID, NIH and Uniformed Services Univ. of the Hlth. Sci..
- LYM.939 **116.10** Lymphocyte-specific protein tyrosine kinase (LCK) is involved in the aryl hydrocarbon receptor (AHR)-mediated impairment of Immunoglobulin secretion in human primary B cells. **J. Zhou, J. Henriquz, R. Crawford and N. Kaminski.** Michigan State Univ.
- LYM.940 **116.11** TCF/LEF family transcription factors in peripheral Treg homeostasis. **W. Fu, B-H. Yang, X. Yuan and Y. Dong.** Univ. of California, San Diego.
- LYM.941 **116.12** Identification of age-related changes in gene expression and chromatin accessibility in T cells from thymus to periphery. **A. Achour, G. Chen, A. Sharov, T. Nugyen, W. Peng, M. Patrick, W.III. Wood, S. De, K. Becker and N-P. Weng.** NIA, NIH and George Washington Univ.
- LYM.942 **116.13** Id3 expression defines anatomically and functionally distinct regulatory T cells. **J. Sullivan, B. Hoellbacher and D. Campbell.** Benaroya Res. Inst. and Univ. of Washington.
- LYM.943 **116.14** The TCR/ITK signaling pathway regulates the counterbalance of effector and regulatory T cell development. **W. Huang and A. August.** Cornell Univ.
- LYM.944 **116.15** Memory CD8+ T Cell Develop. is Controlled by the Sympathetic Nervous Syst. **J. Farrar, L. Estrada, D. Agac, A. Wise, R. Maples, B. Chen and M.C. Cobanoglu.** Univ. of Texas Southwestern Med. Ctr., St. Jude Children's Res. Hosp., Illumina.
- LYM.945 **116.16** SMAD4 impedes the conversion of NK cells into ILC1-like cells by curtailing non-canonical TGF- β signaling. **V. Cortez, T. Ulland, L. Cervantes-Barragan, J. Bando, M. Robinette, Q. Wang, A. White, S. Gilfillan, M. Cella and M. Colonna.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis.
- LYM.946 **116.17** Kinetics of the liver resident NK cell compartment. **G. Dodard, T. Erick, A. Tata and L. Brossay.** Brown Univ.
- LYM.947 **116.18** Themis integrates signalling from self pMHC and cytokines in mature CD8+ T cells. **N. Gascoigne, X. Zhao, M. Mehta, N. Gautam and J. Brzostek.** Natl. Univ. of Singapore, Singapore.

- LYM.948 **116.19** Vagotomy decreases splenocytes and MHCII+/CD11B+ cells in the spleen. **R. Nazarali, L. Shapiro and S. Mukherjee.** Texas A&M Hlth. Sci. Ctr.
- LYM.949 **116.20** IL-1 and IL-33 differentially regulate the functional specialization of mucosal Foxp3⁺ regulatory T cells. **F. Alvarez, J. Fritz and C. Piccirillo.** McGill Univ. Hlth. Ctr., Canada and McGill Univ., Canada.
- LYM.950 **116.21** TCR signal strength and antigen affinity modulate CD8⁺ memory T cell development. **S. Solouki, W. Huang and A. August.** Cornell Univ.
- 117. MICROBIAL, PARASITIC, AND FUNGAL IMMUNITY : BACTERIAL IMMUNITY**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- MPF.952 **117.1** Performance of the Syphilis Serology Algorithm Diagnosis. **J-M. Balada-Llasat.** Ohio State Univ. Col. of Med.
- MPF.953 **117.2** The pro-bacterial effect of Type 1 Interferon signaling requires its own negative regulator USP18. **N. Shaabani, N. Honke, M. Prinz, K-P. Knobeloch, D-E. Zhang and J. Teijaro.** Scripps Res. Inst., Heinrich Heine Univ., Germany, Freiburg Univ., Germany and Moores UCSD Cancer Ctr.
- MPF.954 **117.3** Dissecting the pathogenic versus protective roles of IFN- γ and IL-17 in staphylococcal toxic shock syndrome and pneumonia using gene targeted HLA-DR3 transgenic mice. **G. Rajagopalan, A. Krogman and V. Chowdhary.** Edward Via Col. of Osteopathic Med. and Mayo Clin.
- MPF.955 **117.4** Dysregulated Th1 Immune and Endothelial Responses during Severe Scrub Typhus. **L. Soong, B. Trent, Y. Xing, Y. Wei, Y. Liang, T. Brehm, N-H. Cho, J. Cai, D. Bouyer, S. Sahni, D. Walker and J. Sun.** Univ. of Texas Med. Br., Galveston and Seoul Natl. Univ. Col. of Med., South Korea.
- MPF.956 **117.5** Commensal *Neisseria* Modulates Host IL-6 to Promote Oral Colonization. **D. Powell, M. Ma, M. So and J. Frelinger.** Univ. of Arizona.
- MPF.957 **117.6** T-independent IFN γ and B cells synergize to prevent mortality associated with disseminated *Chlamydia muridarum* genital infection. **T. Poston, C. O'Connell, J. Girardi, J. Sullivan, U. Nagarajan, A. Marinov, A. Scurlock and T. Darville.** Univ. of North Carolina, Chapel Hill, Univ. of Pittsburgh and Univ. of Arkansas for Med. Sci.
- MPF.958 **117.7** Circulating memory is sufficient for protection against *Chlamydia muridarum* in the murine female reproductive tract. **J. Labuda, O. Pham and S. McSorley.** Univ. of California, Davis.
- MPF.959 **117.8** *Oscillatoria* sp. LPS activates human monocytes in a manner that is distinct from *E. coli* LPS. **M. Swanson-Mungerson, R. Incrocci, V. Subramaniam, K. Radowska, M. Hall, P. Williams and A. Mayer.** Midwestern Univ. and Univ. of Hawaii, Manoa.
- MPF.960 **117.9** *Staphylococcus aureus* colonization is influenced by cutaneous interferon production. **S. Sirobhusanam, N. Parsa, M. Sarkar, J. Gudjonsson and J. Kahlenberg.** Univ. of Michigan and Univ. of Toledo
- MPF.961 **117.10** Neutrophils and M1 macrophages contribute to vascular injury and lung Pathogenesis during *Orientia tsutsugamushi* infection. **B. Trent, Y. Xing, Y. Wei, Y. Liang, T. Shelite, D. Bouyer and L. Soong.** Univ. of Texas Med. Br., Galveston.
- MPF.962 **117.11** Determination of Pro-inflammatory and Anti-inflammatory Markers (Cytokines) in Multi-drug Resistant Tuberculosis and Drug Responsive Tuberculosis Patients in Ghana. **S. Antwi-Baffour, A. Basingnaa, E. Afutu and E. Owusu.** Univ. of Ghana, Ghana and Accra Tech. Univ., Ghana.
- MPF.963 **117.12** Differential expression of PD-L1 and Th1 response of lymphocytes co-cultured with human gastric organoids infected with *Helicobacter pylori* strains isolates from different gastric pathologies. **A. Peniche, M. Estes, Y. Yamaoka and V.E. Reyes.** Univ. of Texas Med. Br., Galveston and Baylor Col. of Med.
- MPF.964 **117.13** Bovine colostrum increases the viability and the healing process of IPEC-J2 intestinal porcine epithelial cells while modulating the barrier function and *Escherichia coli*-mediated inflammatory responses. **M. Bouchard, M. Blais, K. Deschenes, G. Robitaille, Y. Arcand, C. Asselin and M. Lessard.** Agr. and Agri-Food Canada, Canada and Univ. of Sherbrooke, Canada.
- MPF.965 **117.14** A C-reactive protein-based strategy to reduce antibiotic dosing. **D. Ngwa, S. Singh, T. Gang and A. Agrawal.** East Tennessee State Univ.
- MPF.966 **117.15** AlgR controls in vivo persistence of *Pseudomonas aeruginosa*. **C. Penaranda and D. Hung.** Massachusetts Gen. Hosp.
- MPF.967 **117.16** Protection from lethal *Staphylococcus aureus* infection by probiotic exopolysaccharide. **W. Paik, F. Alonzo and K. Knight.** Loyola Univ. Chicago and Loyola Univ. Med. Ctr.
- MPF.968 **117.17** Intracellular *Salmonella enterica* infection is controlled in mononuclear phagocytes that attract CXCR3⁺ Th1 cells in vivo and persists in those that do not. **M. Goldberg, E. Roeske, L. Ward, D. Kotov, T. Dileepan and M. Jenkins.** Univ. of Minnesota and Univ. of Minnesota Med. Sch.
- MPF.969 **117.18** Intracerebral *Mycobacterium tuberculosis* infection induces robust myeloid and lymphocytic immunity in the central nervous system. **G. Hernandez, A. Ritter, A. Mergaert, A. Rayasam, C. Gerhart, M. Sandor and Z. Fabry.** Univ. of Wisconsin, Madison.
- MPF.970 **117.19** Dynamic changes in *Mycobacterium tuberculosis*-induced granulomas: developing new tools. **S. Marcus, M. Herbath, Z. Fabry and M. Sandor.** Univ. of Wisconsin, Madison.

SUNDAY—POSTER SESSIONS

- MPF.971 **117.20** Circulating bacterial DNA is associated with disease severity in patients with *S. aureus* bacteremia. **J. Gutierrez, A. Guimaraes, M. Peck, A. Barhanu, M. Xu, Y. Cao, J. Kim, D. Yan, J. Chang, J. Dinoso, C. Koss, A. Clemenzi-Allen, H. Chambers, C. Rosenberger and A. Baruch.** Genentech, Inc. and Univ. of California, San Francisco.
- MPF.972 **117.21** Oxidant sensor cation channel TRPM2 activates neutrophil extracellular trap formation by autophagy and plays a protective role in pneumoseptic *Klebsiella pneumoniae* infection. **J. Tripathi, A. Sharma, P. Sukumaran, B. Mishra, B. Singh and J. Sharma.** Univ. of North Dakota.
- MPF.973 **117.22** Suboptimal stimulation with staphylococcal enterotoxin C1 induces immunosuppressive CD4+CD25+ regulatory T cells by differential expression of FOXP3 isoforms. **J. Lee, N. Park, J.Y. Park, S. Yoon, J.W. Park, S. Pruett and K.S. Seo.** Mississippi State Univ. and Univ. of Louisville.
- MPF.974 **117.23** Comparative genomic analysis of *Escherichia coli* strains resistant to grazing by the social amoeba *Dictyostelium discoideum*. **M. Snyder, T. Hazen, J. Michalski and D. Rasko.** Towson Univ. and Univ. of Maryland Sch. of Med.
- MPF.975 **117.24** *Chlamydia*-Specific CD8⁺ T cells Enhance Neutrophil Infiltration into *Chlamydia*-Infected Female Mouse Genital Tract. **W. Li, K. Ramsey and A. Murthy.** Midwestern Univ.
- MPF.976 **117.25** Type 3 interferons expressed in tuberculous granulomas may influence signaling in epithelioid macrophages. **J. Mattila, P. Talukdar and B. Junecko.** Univ. of Pittsburgh Grad. Sch. of Publ. Hlth.
- MPF.977 **117.26** I L-23-mediated contraction of Mycobacterium tuberculosis antigen-specific regulatory T cells. **S. Shafiani, K. Adams, C. Plumlee, J. Delahaye, S. Cohen and K. Urdahl.** Ctr. for Infectious Dis. Res. and Univ. of Washington.
- MPF.978 **117.27** IRF3 inhibits IFN γ -mediated restriction of intracellular pathogens in macrophages independently of type I interferons. **K. Maciag, R. Raychowdhury, K. Smith, J. Coers, M. Mumbach, S. Schwartz, R. Polidoro, R. Gazzinelli and N. Hacohen.** Univ. of Massachusetts Med. Sch. and Massachusetts Gen. Hosp.
- MPF.979 **117.28** Immune-Medicated Angiopoietin/Tie2 Expression and Renal Injury in Murine Orientia tsutsugamushi Infection Models. **J. liu, B. Trent, Y. Liang, T. Brehm, Y. Xing, J. Cai, J. Sun and L. Soong.** Univ. of Texas Med. Br., Galveston and Xi'an Jiaotong Univ., China.
- MPF.980 **117.29** Role of Interferon- γ in promoting disease severity in neonatal *Bordetella pertussis* infection. **A. Mitchell, K. Scanlon and N. Carbonetti.** Univ. of Maryland, Baltimore.
- MPF.981 **117.30** Polysaccharide capsule allows Group B *Streptococcus* to avoid killing in a newborn pneumonia model. **S. Lund, K. Patras, J. Kimmey, A. Yamamura, G. Hernandez, O. Lakhdari, A. McCoy, V. Nizet and L. Prince.** Univ. of California, San Diego and Rady Children's Hosp., San Diego.
- MPF.982 **117.31** Cannabinoid receptor 1 blockade attenuates metabolic inflammation and gut microbial dysbiosis during high-fat diet-induced obesity. **K. Miranda, W. Becker, P. Busbee, L. Menzel, N. Dopkins, P. Nagarkatti and M. Nagarkatti.** Univ. of South Carolina Sch. of Med.
- MPF.983 **117.32** Dynamics and function of group 1 CD1-restricted T cells during disseminated *Staphylococcus aureus* infection. **L. Visvabharathy and C-R. Wang.** Feinberg Sch. of Med., Northwestern Univ.
- MPF.984 **117.33** Random mutagenesis unveils novel host-pathogen interactions during colonic bacterial infections in immunocompromised hosts. **Y. Liu, X. Xia and F. Wan.** Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- MPF.985 **117.34** Recruited macrophages fail to restrict intracellular growth of *Mycobacterium tuberculosis*. **J. Jang and J. Ernst.** New York Univ. Sch. of Med.
- MPF.986 **117.35** Cold-induced stress impairs the production of Th1 protective cytokines during co-culturing of dendritic cells and naïve T helper cells of *Chlamydia muridarum* infected mice. **T. Belay.** Bluefield State Col.
- MPF.987 **117.36** A Natural polymorphism of EsxH in *Mycobacterium tuberculosis* disrupts the immunodominant CD8 T cell response. **R. Sutiwisesak, S. Carpenter and S. Behar.** Univ. of Massachusetts Med. Sch.
- MPF.988 **117.37** NK cells inhibit anti-*M.bovis* BCG T cell responses by lysing BCG-infected macrophages and aggravating pulmonary inflammation. **M. Fang, D. Wang, X. Gu, X. Liu, S. Wei and B. Wang.** Inst. of Microbiology and CAS, China.
- MPF.989 **117.38** Increasing Domain Coverage Improves Neutralizing Potency of *C. difficile* Toxin-specific Antibodies. **L. Li, L.E. Cole, U. Jetley, J. Zhang, K. Pacheco, F. Ma, J. Zhang, S. Mundle, Y. Yan, L. Barone, C. Rogers, N. Beltraminelli, L. Quemeneur, H. Kleanthous, S.F. Anderson and N.G. Anosova.** Sanofi Pasteur, Res.& Non-Clin. Safety North America, Momenta Pharmaceuticals, INC., Res., Harvard Vanguard Med. Associates, Maine Med. Ctr. Dept. of Pediatrics, BliNK Biomed. SAS, R&D, France, Sanofi Pasteur, Res.& Non-Clin. Safety Europe, France, Anokion US, Inc. and Develop. and Analytics.
- MPF.990 **117.39** *Mycobacterium tuberculosis* subverts Ca⁺ signaling by inducing miR-30e expression in human dendritic cells. **B. Tiwari, J. Yadav, A. Chaudhry, Y. Singh and K. Natarajan.** CSIR-Inst. of Genomics and Integrative Biol., India, Dr. BR Ambedkar Centre for Biomed. Res.Univ. of Delhi, India, Rajan Babu Inst. of Pulmonary Med. and Tuberculosis, India, and Univ. of Delhi, India.
- MPF.991 **117.40** IFN- γ deficiency alters splenic compartment cellular composition and *Brucella* distribution in a murine model of brucellosis. **A. Dadelahi, C. Lacey and J. Skyberg.** Univ. of Missouri.
- MPF.992 **117.41** Aryl hydrocarbon receptor activation differentially impacts Cholera toxin-specific IgA levels in feces and serum of male and female mice. **G. Dekrey, A. King, E. Gawronska and M. Metten.** Univ. of Northern Colorado.

- MPF.993 **117.42** T cell IFN γ production is restricted within pulmonary tuberculosis granulomas. **B. Gern, C. Plumlee, M. Gerner and K. Urdahl.** Ctr. for Infectious Dis. Res., Univ. of Washington and Seattle Children's Res. Inst.
- MPF.994 **117.43** A blood-based transcriptional signature in a novel murine tuberculosis model predicts risk of human tuberculosis progression. **C. Plumlee, B. Gern, F. Duffy, J. Delahaye, T. Rustad, J. Aitchison, D. Sherman, D. Zak, M. Gerner and K. Urdahl.** Ctr. for Infectious Dis. Res. and Univ. of Washington.
- MPF.951 **117.44** Peripheral *Francisella Tularensis* Infection Results In Neural Invasion and Pathologic Inflammation. **M.R. Muniz, C. Spencer, R. Contreras and G. Nunez.** The Univ. of Texas at El Paso
- 118. CELLULAR IMMUNE RESPONSES AT THE MUCOSA**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- MUC.1000 **118.1** Fluid absorption modulates Peyer's patch homeostasis and mucosal antibody responses. **J. Chang, E. Gressier, S. Turley and M. Carroll.** Harvard Med. Sch., Univ. of Melbourne, Australia, Genentech, Inc. and Boston Children's Hosp.
- MUC.1001 **118.2** Anatomically remote education of B cells is required for colonic health. **N. Surana and D. Kasper.** Boston Children's Hosp. and Harvard Med. Sch.
- MUC.1002 **118.3** B cell-intrinsic epigenetic modulation of local and systemic antibody response by gut microbiota through catabolic short-chain fatty acids. **H. Sanchez, H. Gan, J. Moroney, C. Daw, J. Taylor, H. Zan and P. Casali.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- MUC.1003 **118.4** IgA⁺B cells negatively regulated by microRNA15a/16-1 mediate immunosuppression and predict poor prognosis in colorectal cancer. **R. Liu, Z. Lu, J. Gu and Y. Chu.** Sch. of Basic Med. Sci. and Inst. of Biomed. Sci., Fudan Univ., China and The Affiliated Zhongshan Hosp. of Fudan Univ., China.
- MUC.1004 **118.5** miR-146a modulates IgA class-switch DNA recombination by targeting *Smad2*, *Smad3* and *Smad4* genes. **C. Daw, H. Zan and P. Casali.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- MUC.1005 **118.6** Absence of B Cell Function Impairs Protective Mucosal Immunity to Brucellosis. **Z. Goodwin, B. Clapp, X. Yang, C. Hoffman and D. Pascual.** Univ. of Florida.
- MUC.1006 **118.7** Erythroid suppressor cells promote fetomaternal tolerance through arginase-2 and PDL-1. **S. Elahi, C. Delyea, N. Bozorgmehr, G. Dunsmore, S. Shahbaz and V. Huang.** Univ. of Alberta, Canada, and Univ. of Toronto, Canada.
- MUC.1007 **118.8** Dynamic changes in immune populations at the fetomaternal interface during term and preterm birth. **E. Lewis, G. Barila, A. Brown, P. Porrett and M. Elovitz.** Univ. of Pennsylvania.
- MUC.1008 **118.9** Lymphatic and uterine B cells contribute to maternal immunological tolerance during murine pregnancy. **R.M. Genuino, P. Eldi, P. Garcia-Valtanen, J. Hayball and K. Diener.** Sansom Inst. for Hlth. Res., Sch. of Pharmacy and Med. Sci., Univ. of South Australia, Australia and Robinson Res. Inst., Adelaide Med. Sch., The Univ. of Adelaide, Australia.
- MUC.1009 **118.10** Rise in invariant Natural Killer T-17 cells during *Bordetella pertussis* infection in mice. **T. Segal-Abramson and D. Santos.** San Jose State Univ.
- MUC.1010 **118.11** Novel role of intestinal Goblet cells and Goblet Cell Associated Antigen Passages in induction of tolerance to dietary antigens and promoting intestinal homeostasis. **D. Kulkarni, J. Gustafsson, K. McDonald, K. Knoop, J. Davis, M. Miller and R. Newberry.** Washington Univ. Sch. of Med. in St. Louis.
- MUC.1011 **118.12** TGF- β 1 regulates epidermal LCs in a Smad-independent pathway. **L. Huang, G-H. Li, X. Zhang, C. Yin, L. Zhou and Q-S. Mi.** Henry Ford Hlth. Sys.
- MUC.1012 **118.13** MicroRNA-10a regulates intestinal mucosal dendritic cell development and function by targeting CD11c. **X. Huang, F. Chen, X. Xue, L. Chen, W. Yang, L. Xu, A. Bilotta, S. Yao and Y. Cong.** Univ. of Texas Med. Br., Galveston.
- MUC.1013 **118.14** A novel function of ADP-ribosyl cyclases to regulate the length of the small intestine revealed in CD38/CD157 double knockout mice. **K. Ishihara, A. Yahagil and M. Iseki.** Kawasaki Med. Sch., Japan.
- MUC.1014 **118.15** Engineering of Targeted Mucoadhesive Chitosan Based Salmonella Nanovaccine for Oral Delivery in Poultry. **S. Renu, A. Markazi, S. Dhakal, Y. Lakshmanappa, R. Shanmugasundaram, R. Selvaraj and G. Renukaradhya.** Food Animal Hlth. Res. Program, OARDC and Ohio State Univ. and Univ. of Georgia.
- MUC.1015 **118.16** Oropharyngeal (OPG) vaccination activates head and neck lymphoid tissues required for immune protection against mucosal *Brucella* infection. **B. Clapp, X. Yang, C. Hoffman and D. Pascual.** Univ. of Florida.
- MUC.1016 **118.17** Differences in psychosocial behavior, salivary IgA, and oral microbiota in student-athletes and sedentary college students. **S. Costan, P. Appasamy, S. Edenborn, E. Ubinger and A. Carrillo.** Chatham Univ. and TetraTech, Inc.
- MUC.1017 **118.18** Loss of DAO activity triggers IgA nephropathy through disturbed mucosal immunity. **M. Suzuki, M. Goto, R. Takahashi, M. Ito, S. Aiso and J. Sasabe.** Keio Univ. Sch. of Med., Japan and Central Inst. for Exp. Animals, Japan.

SUNDAY—POSTER SESSIONS

MUC.1018 **118.19** Self-tolerance to an ileal antigen requires both IL-17A and IFN γ in mice predisposed to spontaneous ileocolitis. **J. Jeschke, C. Mayne, C. DeCiantis, S. Kumar, W. Drobyski, N. Salzman and C. Williams.** Med. Col. of Wisconsin, and Viterbo Univ.

MUC.1019 **118.20** Mast Cells Play a Protective Role in Spontaneous Colitis. **E. Lennon, J. Woodrow, C. Thomason, L. Borst, L. Edwards and A. Moeser.** Univ. of Tennessee, North Carolina State Univ. Col. of Vet. Med. and Michigan State Univ.

119. ILCS AND IELS: REGULATORS OF MUCOSAL IMMUNITY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

MUC.1020 **119.1** Surveying the TCR landscape of intestinal intraepithelial lymphocytes. **S. Schattgen, J. Crawford and P. Thomas.** St. Jude Children's Res. Hosp.

MUC.1021 **119.2** *Lactobacillus reuteri* induces gut intraepithelial CD4+CD8 $\alpha\alpha$ + T cells. **L.C. Barragan, J. Chai, M.D. Tianero, B.D. Luccia, P. Ahern, J. Merriman, V. Cortez, M. Caparon, M. Donia, S. Gilfillan, M. Cella, J. Gordon, C. Hsieh and M. Colonna.** Washington Univ. Sch. of Med. in St. Louis, Princeton Univ. and Washington Univ. in St. Louis.

MUC.1022 **119.3** Obesity and Intraepithelial Lymphocyte Dysfunction. **J. Jameson, C. Park and N. Limon.** California State Univ., San Marcos and Univ. of Massachusetts Med. Sch.

MUC.1023 **119.4** Osteopontin provides a survival signal for intestinal intraepithelial lymphocytes in mice. **A. Nazmi, D. Olivares-Villagomez and M.B. Piazuelo.** Vanderbilt Univ. Med. Ctr.

MUC.1024 **119.5** A functional androgen-regulated subset lacking KLRG1 contributes to the sex bias in ILC2s. **S. Kadel, E. Ainsua-Enrich, I. Hatipoglu, S. Turner, S. Singh, S. Khan and S. Kovats.** Oklahoma Med. Res. Fndn. and Univ. of Cincinnati Col. of Med.

MUC.1025 **119.6** ILC2 activation by leukotrienes: NFAT joins the team. **J. von Moltke, C. O'Leary, N. Barrett, Y. Kanaoka, K.F. Austen and R. Locksley.** Univ. of Washington, Univ. of California, San Francisco and Brigham and Women's Hosp.

MUC.1026 **119.7** Single-cell RNA-seq identifies the neuropeptide NMU as a novel regulator of ILC2 function. **A. Wallrapp, S. Riesenfeld, P. Burkett, R-E. Abdounour, J. Nyman, D. Dionne, M. Hofree, M. Cuoco, C. Rodman, D. Farouq, B. Haas, T. Tickle, J. Trombetta, P. Baral, C. Klose, T. Mahlaköiv, D. Artis, O. Rozenblatt-Rosen, I. Chiu, B. Levy, M. Kowalczyk, A. Regev and V. Kuchroo.** Brigham and Women's Hosp., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Weill Cornell Med. Col. and Howard Hughes Med. Inst.

MUC.1027 **119.8** S1P-dependent Inter-Organ Trafficking of Group 2 Innate Lymphoid Cells Supports Host Def. **Y. Huang, K. Mao, X. Chen, M-A. Sun, T. Kawabe, W. Li, N. Usher, J. Zhu, J. Urban, W. Paul and R. Germain.** NIAID, NIH, NICHD, NIH, Cornell Univ. and USDA.

MUC.1028 **119.9** Reciprocal activation of B cells and group 2 innate lymphoid cells. **S. Feldman, R. Kasjanski, J. Norton, R. Kern, D. Conley, K. Welch, B. Tan, A. Peters, L. Grammer, K. Harris, R. Carter, L. Suh, W. Stevens, A. Kato, R. Schleimer and K. Hulse.** Perelman Sch. of Med., Univ. of Pennsylvania and Feinberg Sch. of Med., Northwestern Univ.

MUC.1029 **119.10** Unique Cytokine Profile of Novel Innate Lymphoid Cells in Human Decidua. **J. Vazquez, Y. Li and A. Stanic-Kostic.** Univ. of Wisconsin, Madison.

120. TECHNOLOGICAL INNOVATIONS I

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

TECH.1030 **120.1** Novel cell-based high-throughput hybridoma screening method using the Celigo image cytometer for antibody discovery. **L. Chan, H. Zhang, W. Rice, N. Kassam, M.S. Longhi, H. Zhao, S. Robson, W. Gao and Y. Wu.** Nexcelom Bioscience, Beth Israel Deaconess Med. Ctr., Brigham and Women's Hosp., Harvard Med. Sch., Chinese Acad. of Med. Sci., China and Antagen Pharmaceuticals, Inc.

TECH.1031 **120.2** An efficient human whole blood workflow using CyTOF technology: a lyophilized 30-plex antibody panel coupled with automated data analysis. **S. Li, D. Majonis, C.B. Bagwell, B. Hunsberger, V. Baranov and O. Ornatsky.** Fluidigm Canada Inc, Canada and Verity Software House.

TECH.1032 **120.3** Comprehensive assessment of immune cells in mouse and human atherosclerosis by single cell RNA sequencing and mass cytometry. **H. Winkels, E. Ehinger, M. Vassallo, K. Buscher, H. Dinh, K. Kobiyama, A. Hamers, C. Cochain, E. Vafadarnejad, A. Saliba, A. Zerneck, P. Bala, A. Ghosh, N. Michel, N. Hoppe, I. Hilgendorf, A. Zirlik, C. Hedrick, K. Ley and D. Wolf.** La Jolla Inst. for Allergy and Immunology, Inst. of Expt.al Biomedicine, Univ. Hosp. Würzburg, Germany, Helmholtz Inst. for RNA-based Infection Res., Germany, Univ. Heart Ctr. Freiburg, Germany and Univ. of California San Diego.



- TECH.1033 **120.4** Diagnostic Assessment of Immunological History by High-throughput TCR sequence Analyses. **K. Wolf, J. Maybruck and R. DiPaolo.** St. Louis Univ. Sch. of Med. and Federal Bureau of Investigation.
- TECH.1034 **120.5** Efficient isolation of particle-free human ILC2s from peripheral blood mononuclear cells. **G. Poon, S. Kyei, F. Antignano, K. McQueen, C. Peters, F. Takei, Y. Valdez, A. Kokaji, S. Woodside, A. Eaves and T. Thomas.** StemCell Technologies Inc., Canada, Terry Fox Lab. and BC Cancer Agency, Canada.
- TECH.1035 **120.6** New technology for development of host-targeted therapeutic vaccine against anthrax. **H. Yang, Y. Yan, H. Wang, Y. Chen, Z. Zheng, H. Kim, L. Wu, S. Franco and M. Zeng.** Key Lab. of Oral Med., Guangzhou Inst. of Oral Dis., Stomatological Hosp. of Guangzhou Med. Univ., China, Ctr. of Emphasis in Infectious Dis., Paul L. Foster Sch. of Med. and Texas Tech Univ. Hlth. Sci. Ctr. El Paso.
- TECH.1036 **120.7** Multi-parameter flow sorting with novel antibody fluorochrome conjugates that facilitate relabeling of targeted epitopes and reuse of fluorescence channels in downstream applications. **C. Evaristo, J. Pankratz, S. Schmachtenberg, A. Bergmann, N. Jansen, S. Krauthäuser, S. Meiler, Z. Yu, E. Schiminsky, A. Völkel, C. Siewert and C. Dose.** Miltenyi Biotec, Germany.
- TECH.1037 **120.8** A simple and rapid method for measuring human natural killer cell function in whole blood by anti-NKp30-conjugated nanoparticles. **K. Kato, M. Moriya and E. Kato.** Toyo Univ., Japan and Juntendo Univ. Sch. of Med., Japan.
- TECH.1038 **120.9** Magnetic Delivery of Antibody-Coated Beads to Live Lymph Node Tissue Slices. **M. Belanger and R. Pompano.** Univ. of Virginia.
- TECH.1039 **120.10** Intracellular pairing of TCR α and TCR β mRNA at the single-cell level using DNA Origami. **P. Ulrich, L. Schoettle, K. Anderson and J. Blattman.** Arizona State Univ., Ctr. for Personalized Diagnostics, The Biodesign Inst. and Ctr. for Immunotherapy, Vaccines and Virotherapy.
- TECH.1040 **120.11** Sample multiplexing of peripheral immune populations for high throughput single-cell RNA-sequencing. **N. Bansal, C. Chang, Y. Liang, E. Shum, J. Martin, J. Ghadiali, D. Jensen, J. Hu, D. Rosenfeld, Y. Zheng and H. Fan.** BD Biosciences and Salk Inst.
- TECH.1041 **120.12** Novel strategies to assess the synaptic interface of primary human T cells from peripheral blood and lymphoid tissue. **M. Steblyanko, N. Anikeeva, M. Buggert, M. Betts and Y. Sykulev.** Thomas Jefferson Univ., Univ. of Pennsylvania and Karolinska Univ. Hosp., Sweden.
- TECH.1042 **120.13** Autofluorescence Imaging of T cell Activation. **A. Walsh, K. Mueller, I. Jones, T. Heaster, K. Saha and M. Skala.** Morgridge Inst. for Res., Wisconsin Inst. for Discovery and Univ. of Wisconsin, Madison.
- TECH.1043 **120.14** Bioengineered organoid models of human germinal centers. **N. Quizon, K. Kwak, S. Shah, A. Singh and S. Pierce.** NIAID, NIH and Cornell Univ.
- TECH.1044 **120.15** A novel peptide pool with broad infectious antigen and MHC coverage for use as a positive stimulation control or as a means to elicit general T-cell responsiveness. **A. Castro, P. Holenya, M. Eckey, M. Schulz, H. Wenschuh, U. Reimer, T. Tech, K. Chan, R. Janani, B. Broaten and F. Kern.** JPT Peptide Technologies, GmbH, Germany, Vaccine Res. & Develop., Clin. Cell Based Assay/ Clin. Diagnostic & Assay Develop. and Pfizer, Inc.
- TECH.1045 **120.16** Analysis of T cells made easy—Complete workflows improve the isolation and analysis of T cells. **C. Evaristo, C. Pitzka, R. Siemer, A. Foerster-Marniok, J. Gotot, C. Dose and A. Richter.** Miltenyi Biotec, Germany and Univ. of Bonn, Germany.
- TECH.1046 **120.17** Tumor infiltrating T cells: complete workflows allow faster and improved analysis. **C. Evaristo, R. Siemer, D. Agorku, J. Brauner, O. Hardt, C. Dose and A. Richter.** Miltenyi Biotec, Germany.
- TECH.1047 **120.18** Large-scale use of knockout validation to confirm antibody specificity. **Z. Zhong, M. Sassi, S. Heaton, S. Koch, G.D. Block, D. Conlon, J. Lohead, H. Dreja, M. Munro, A. Solache and B. Hamilton.** Abcam plc, United Kingdom.
- TECH.1200 **120.19** Magnetic enrichment of tumor infiltrating T cells reduces experimental time and prevents biased functional characterization. **C. Evaristo, R. Siemer, D. Agorku, J. Brauner, O. Hardt, C. Dose and A. Richter.** Miltenyi Biotec, Germany.
- TECH.1201 **120.20** Exploring the applicability of ctDNA technology as a diagnostic tool for improved Cancer care and management within the Pacific. **D. Sika-Paotonu and P. Guilford.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand and Cancer Genetics, Univ. of Otago, New Zealand.
- TECH.1202 **120.21** The potential application of ctDNA technology as a cancer diagnostic tool within the Socialist Republic of Vietnam. **D. Sika-Paotonu and P. Guilford.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand and Cancer Genetics, Univ. of Otago, New Zealand.
- TECH.1203 **120.22** Centrifuge-less immunostaining of suspension cells for flow cytometry analysis by DA-Cell washer and plate for superior data and workflow. **N. Kim and M. Lye.** Curiox Biosystems.
- TECH.1204 **120.23** High-throughput single-cell linking of antigen specificities with T cell receptor sequences using de novo generated DNA-linked MHC tetramers. **N. Jiang.** Univ. of Texas, Austin.

SUNDAY—POSTER SESSIONS

- TECH.1205 **120.24** Cross platform validation of a unique method for deep genomic and proteomic analysis of rare immune cell populations. **P. Lopez, M. Gregory, K. Miller, K. Fuhrman, K. Ray and D. Hinerfeld.** New York Univ. Sch. of Med. and NanoString Technologies, Inc.
- TECH.1206 **120.25** Evaluation of activation and homing markers on regulatory T cells using a modular flow cytometry approach on the BD FACSLyric™ flow cytometer. **A. Tyznik, N. Kara, M. Corselli, N. Warner, A. Stall, J. Trotter and S. Saksena.** BD Biosci.
- TECH.1207 **120.26** Effect of MHC clustering on antigen recognition and T cell responses. **N. Anikeeva, N. Fisher, C. Blanchette and Y. Sykulev.** Thomas Jefferson Univ. and Lawrence Livermore Natl. Lab.
- TECH.1208 **120.27** Multiplex immunoassay detection of autoimmune disease autoantibodies in serum and plasma. **B. Gilliam, D. Pepin and Q. Xiao.** MilliporeSigma and EMD Millipore Corp.
- TECH.1209 **120.28** Rapid Specificity Determination and FACS Selection of Plasma Cells for Single Cell Antibody Cloning. **K. McBride, Y. Mu, M. Zelazowska, Q. Dong, L. Krug and J. Plummer.** The Univ. of Texas MD Anderson Cancer Ctr. and Stony Brook Univ.
- TECH.1210 **120.29** Utilizing the Multi-parameter Capability of the ZE5 to Monitor T-Cell Exhaustion Following Immunotherapy. **A. Green, C. Brampton, M. Alexander, Y. Talaga and E. Jordon.** Bio-Rad Labs.
- TECH.1211 **120.30** B- and T-cell Immune Repertoire Characterization using Anchored Multiplex PCR and Next-Generation Sequencing. **J. Haimes, T. Harrison, N. Nair, J. Sims, I. McKittrick, L. Griffin, L. Johnson and B. Kudlow.** ArcherDX and Q2 Solutions | EA Genomics.
- TECH.1212 **120.31** Evaluation of a B-Cell Biosensor Immunoassay for Rapid and Sensitive Detection of Ricin, a Harmful Plant Protein Toxin. **K. Venkateswaran, S. Selvan, J. Sarwar, N. Parameswaran, P. Babu, S. Koval, R. Venkateswaran, K. Krishnan, J. Simpson and D. Hodge.** OmniArray Biotechnology LLC, California State Univ., Fresno, PathSensors, Baltimore, MD and Dept. of Homeland Security, Washington, DC.
- TECH.1213 **120.32** Phylogenetic substitution models for antibody lineages. **K. Hoehn, G. Lunter, O. Pybus and S. Kleinstejn.** Yale Univ. and Univ. of Oxford, United Kingdom.
- TECH.1214 **120.33** Oligo-conjugated antibodies (Ab-seq) and massively parallel single cell sequencing reveal the high parameter correlation of protein and mRNA expression in individual immune cells. **J. Martin, H. Fan and E. Shum.** BD Biosciences.
- TECH.1215 **120.34** Biologically Inspired, iterative engineering of a Human Lymphoid Follicle Chip. **G. Goyal, J. Long, O. Levy and D. Ingber.** Wyss Inst. for Biologically Inspired Engin. at Harvard Univ.
- TECH.1216 **120.35** The Benzathine Penicillin G (BPG) reformulation preferences study—edging closer towards a new Penicillin for Rheumatic Fever and Rheumatic Heart Dis. **D. Sika-Paotonu, R. Tiatia, Y.K. Sung, C. Thornley, B. Betty, R. Wineera-Parai, B. Eddie, M. Baker, R. Puni, E. Dalton, T. Tauetia-Suá, M. Maloney, M. Sanchez-Felix, J. Spector and J. Carapetis.** Telethon Kids Inst., Australia, Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Maurice Wilkins Centre for Molec. Biodiscovery, New Zealand, Dept. of Public Hlth., Univ. of Otago, New Zealand, YKS Ltd Auckland, New Zealand, Regional Public Hlth., Wellington, New Zealand, Porirua Union and Community Hlth. Services, New Zealand, Compass Hlth., New Zealand, Novartis Inst. of Biomed. Res., Univ. of Western Australia and Princess Margaret Hosp., Australia.
- TECH.1217 **120.36** Single cell metabolomic analysis highlights dynamic changes in immune subpopulations. **J. Connolly and P. Ahi.** Inst. of Molec. and Cell Biol., Singapore, Tessa Therapeutics, Singapore, Inst. of Biomed. Studies and Baylor Univ.
- TECH.1218 **120.37** Multicolor immunophenotyping using flow cytometry: evaluation of multiple methods for instrument optimization. **J. Bradford, M. Shallice, R. Diz, C. Oxford, M. Punj, K. Alford, P. Donaldson, B. Seredick, G. Buller and P. Sardina.** Thermo Fisher Scientific, USA, Thermo Fisher Scientific, United Kingdom, Thermo Fisher Scientific, Australia and Thermo Fisher Scientific, Canada.
- TECH.1219 **120.38** The utilization of ctDNA technology as an early diagnostic tool for Cancer detection in Tonga. **D. Sika-Paotonu, K. Vaea, L.K. 'Ulufonua, S. 'Akau'ola, G. Aho, A.A. Tuipulotu, S. Toumoua, F. Lilo, L. Fotu and P. Guilford.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia, Maurice Wilkins Centre for Molec. Biodiscovery, New Zealand, Vaiola Hosp. Nuku'alofa, Tonga, Ministry of Hlth., Tonga, Vaiola Hosp., Nuku'alofa, Tonga, Cancer Genet.s, Univ. of Otago, Dunedin, New Zealand and Pacific Edge Ltd, New Zealand.
- TECH.1220 **120.39** The Benzathine Penicillin G (BPG) reformulation preferences study—the importance of cultural awareness and appropriate governance concerning Rheumatic Fever related research in New Zealand. **D. Sika-Paotonu, R. Tiatia, Y.K. Sung, C. Thornley, B. Betty, R. Wineera-Parai, B. Eddie, M. Baker, M. Maloney, M. Sanchez-Felix, J. Spector and J. Carapetis.** Telethon Kids Inst., Australia, Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Maurice Wilkins Centre for Molec. Biodiscovery, New Zealand, Dept. of Public Hlth., Univ. of Otago, Wellington, New Zealand, YKS Ltd Auckland, New Zealand, Regional Public Hlth., Wellington, New Zealand, Porirua Union and Community Hlth. Services, New Zealand, Compass Hlth., New Zealand, Novartis Inst. of Biomed. Res., Univ. of Western Australia, Australia and Princess Margaret Hosp., Australia.

- TECH.1221 **120.40** The application of ctDNA technology for early Cancer diagnostics in Samoa. **D. Sika-Paotonu, S. Viali, L.T.T.K. Naseri, F.L.T.I.A. So'o, T.V. Lameko, M. Punivalu, S. Burich, F. Maiava, S.J. Ah-Ching and P. Guilford.** Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Telethon Kids Inst., Australia, Maurice Wilkins Centre for Molec. Biodiscovery, New Zealand, Natl. Hlth. Service, Samoa, Ministry of Hlth., Samoa, Natl. Univ. of Samoa, Oceania Univ. of Samoa, Samoa Cancer Society, Samoa, Parliament of Samoa, Cancer Genetics, Univ. of Otago, Dunedin, New Zealand and Pacific Edge Ltd, New Zealand.
- TECH.1222 **120.41** Dissection of single-cell gene regulation by simultaneous digital mRNA and protein quantification. **R. Lam, E. Shum, C. Chang, G. Lam, N. Bansal, H. Shah, D. Jensen, J. Hu, J. Ghadiali, J. Martin, D. Rosenfeld and H. Fan.** BD Biosciences.
- TECH.1223 **120.42** Modular, defined assembly of antibody-based constructs using click chemistry. **C. Langsdorf, R. Aggeler, A. Chen, N. Dolman, Y-Z. Hu, L. Kamen, B. Mandavilli, B. Ordonia and M. Wickett.** Thermo Fisher Scientific and Genentech, Inc.
- TECH.1224 **120.43** A bead-based multiplex immunoassay for cancer autoantibody biomarker discovery. **D. Pepin, M. Godeny and W-R. Lie.** EMD Millipore Corp.
- TECH.1225 **120.44** Validation of a Protein A-based ELISA for quantifying Immunoglobulin G in a non-traditional wildlife species, the Steller sea lion (*Eumatopias jubatus*). **S. Kennedy, B. Wilhite, J.M. Castellini, L. Rea, T. Kuhn and T. O'Hara.** Univ. of Alaska.
- 121. NOVEL THERAPEUTIC APPROACHES IN NEURO-INFLAMMATION**
- Poster Session**
- SUN. 2:30 PM—EXHIBIT/POSTER HALL
- THER.1226 **121.1** Induction of neuroantigen-specific CD8+ T cell responses as a treatment for relapsing autoimmune demyelinating disease. **A. Brate, S. Sinha, F. Itani, L. Pewe, J. Harty and N. Karandikar.** Univ. of Iowa and Univ. of Iowa Carver Col. of Med.
- THER.1227 **121.2** Small molecule modulators of prion protein (PrpC) in Dendritic cells regulate inflammatory responses in a model of Multiple Sclerosis. **F. Fallarino, M. Barreca, G. Manni, G. Scalisi, E. Biasini, M. Gargaro and G. Manfroni.** Univ. of Perugia, Italy, Dulbecco Telethon Lab. of Prions & Amyloids, Ctr. for Integrative Biol. (CIBIO) and Univ. of Trento, Italy.
- THER.1228 **121.3** A non-redundant role for ROR α in T_H17 cell development and T_H17-driven inflammatory disorders. **L. Solt, R. Wang, M. Amir, S. Chaudhari, S. Campbell, M. Bassette and T. Kamenecka.** Scripps Florida.
- THER.1229 **121.4** Tumor necrosis factor receptor 2 promotes neuroprotection during chronic autoimmune neuroinflammation. **F. Gomez-Rivera, I. Raphael, R. Raphael, R. Robinson, S. Nalawade and T. Forsthuber.** The Univ. of Texas, San Antonio and Univ. of Pittsburgh.
- THER.1230 **121.5** STAT3 regulation of effector Th17 cells and its implications for treatment of autoimmunity. **I. Raphael and M. McGeachy.** Univ. of Pittsburgh.
- THER.1231 **121.6** B Cell Maturation Antigen impacts the efficacy of B-cell targeting therapies in neuro-inflammation. **G. Kumar, R. Ko and R. Axtell.** Oklahoma Med. Res. Fndn.
- THER.1232 **121.7** Selective inhibition of gelatinases mitigates T-cell receptor signaling in CD4+ T-cells resulting in reduced clinical severity in a murine model of Multiple Sclerosis. **L. Onwuha-Ekpete, D. Tokmina-Roszyk and G. Fields.** Florida Atlantic Univ. and Scripps Florida.
- THER.1233 **121.8** Interferon- β -driven inflammatory B cells promote T_H17-mediated neuro-inflammation. **R. Axtell, A. Agasing, J. Quinn, G. Kumar and R. Ko.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr.
- THER.1234 **121.9** The Effect of Murine α CD52 mAb on Treg expansion and Expt.al Autoimmune Encephalomyelitis (EAE) suppression. **N. Kiapour, B. Wu, S. Kapoor, X. Zhang, M. Thamilarasan, Y. Wan and S. Markovic-Plese.** Univ. of North Carolina, Chapel Hill.
- THER.1235 **121.10** Early Treatment of Experimental Autoimmune Encephalomyelitis with Cannabidiol Suppresses Tc1 Cells and Reduces Neuroinflammation. **J. Nichols, E. Kummari, J. Sherman, B. Szafran and B. Kaplan.** Mississippi State Univ.
- THER.1236 **121.11** Aptamer-based screening of cerebrospinal fluid for protein biomarkers of multiple sclerosis. **S. Soomro, S. Hughes, B. Greenberg, J. Hanly and C. Mohan.** Univ. of Houston, Univ. of Texas Southwestern Med. Ctr. and Dalhousie Univ. Med. Sch.
- THER.1237 **121.12** IFN- γ regulates transcription of key molecules to prevent progressive experimental autoimmune encephalomyelitis. **R. Robinson and T. Forsthuber.** The Univ. of Texas, San Antonio.
- THER.1238 **121.13** Differential expression of CNS-specific proteins in progressive EAE point to potential biomarkers for progressive MS. **C. Chase, I. Raphael and T. Forsthuber.** Univ. of Texas, San Antonio and Univ. of Pittsburgh.
- THER.1239 **121.14** RTA 1701 is an orally-bioavailable, potent, and selective ROR γ t inhibitor that suppresses Th17 differentiation in vitro and is efficacious in mouse models of autoimmune disease. **I. Dulubova, X. Jiang, I. Trevino, L. McCauley, L. Liu, L. Hannigan, S. Reisman, D. Ferguson, M. Visnick and C. Wigley.** Reata Pharmaceuticals.
- THER.1240 **121.15** Delta-Like Ligand 4 (DLL4)/Notch axis regulates EAE development by modulating T cell trafficking across the blood brain barrier. **F. Walter, M. Hsu, T. Gilpin, M. Sandor, Z. Fabry and W. Karpus.** Univ. of Wisconsin, Madison.
- THER.1241 **121.16** Gene Therapy induced Tregs: a treatment for relapsing-remitting MS in mice. **G. Keeler, B. Hoffman, I. Cote and C. Gaddie.** Univ. of Florida.
- THER.1242 **121.17** The mechanism of preventing EAE via gene therapy. **G. Keeler, I. Cote, C. Gaddie and B. Hoffman.** Univ. of Florida.
- THER.1243 **121.18** IL-12p35 suppresses encephalitis and uveitis in mice. **J.K. Choi, C-R. Yu, M. Mary, H. Lee, M. Kang, F. Oladipupo, R. Caspi and C. Egwuagu.** NEI, NIH.

SUNDAY—POSTER SESSIONS

Ther.1244 **121.19** The role of CD39-expressing regulatory T cells following treatment with α CD52: an effective therapeutic against central nervous system autoimmunity. **S. Brass, J. Burgess, S. Begum-Haque and L. Kasper.** Geisel Sch. of Med. and Dartmouth Col.

122. COMBINATION THERAPIES FOR IMMUNO-ONCOLOGY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

TUM.1246 **122.1** NCR-ILC3 as the initial responders to liver inflammatory environment promote HCC development through IL-23/IL-17 axis. **Y. Liu, Y. Song, L. Lei, Y. Huang and H. Liu.** Soochow Univ., China, Natl. Univ. of Singapore, China.

TUM.1247 **122.2** Effects of anti-CTLA-4 and anti-PD-1 on memory T-cell differentiation and resistance to tumor relapse. **S. Mok, C. Duffy and J. Allison.** The Univ. of Texas MD Anderson Cancer Ctr.

TUM.1248 **122.3** CTLA-4 limits anti-CD20-mediated tumor regression. **Z. Ren, H. Peng and Y-X. Fu.** Univ. of Texas Southwestern Med. Ctr., Inst. of Biophysics and Chinese Acad. of Sci., China.

TUM.1249 **122.4** Immunotherapy for melanoma using nonviral plasmid DNA based approach. **R. Heller, C. Lundberg, C. Edelblute, S. Arpag-Mcintosh and G. Shi.** Old Dominion Univ.

TUM.1250 **122.5** The immune response in fractionated radiotherapy schedules: implications for combination immunotherapy. **N. Battaglia, S. Gerber and E. Lord.** Univ. of Rochester Sch. of Med. and Dent.

TUM.1251 **122.6** IFN- γ synergizes with polyI:C to reduce growth of murine and human cancer cell growth, with concomitant reductions in cyclinD1 and PD-L1. **T. Petro and Z. Guinn.** Univ. of Nebraska Med. Ctr. and Univ. of Nebraska, Lincoln.

TUM.1252 **122.7** Immune effects of combinatorial repurposing drugs in refractory ovarian and colorectal cancer patients. **J. Marquez-Manriquez, P-A. Lucero-Diaz, L. Montijo-Fernandez, J-A. Matute-Briseno, G. Montano, M. Verburg, M-O. Rosas-Delgado and A. Camacho-Hernandez.** Sonora Cancer Res. Ctr.

TUM.1253 **122.8** Multi-peptide cancer immunotherapy in combination with sorafenib. **J. Marquez-Manriquez, G. Montano, M. Verburg, A. Camacho-Hernandez, P-A. Lucero-Diaz, L. Montijo-Fernandez, P-G. Villalobos-Molina, S. Hinojosa-Martinez, A. Verdugo-Villasenor and J-A. Matute-Briseno.** Sonora Cancer Res. Ctr.

TUM.1254 **122.9** WITHDRAWN.

TUM.1255 **122.10** Phosphatidylserine targeting antibody in combination with tumor radiation and immune checkpoint blockade promotes anti-tumor activity in mouse B16 melanoma. **S. Budha, R. Giese, A. Gupta, O.D. Henau, R. Zappasodi, L.F. Campesato, C. Barker, J. Shan, J. Wolchok and T. Merghoub.** Mem. Sloan Kettering Cancer Ctr. and Peregrine Pharmaceuticals, Inc.

TUM.1256 **122.11** Coordinated events following TLR-9 and CD122 signaling promote NF- κ B/AKT/STAT5-dependent B-CLL clonal expansion. **P. Mongini, R. Gupta, S. Vergani, S. Allen, J. Barrientos, J. Koltitz, K. Rai and N. Chiorazzi.** Feinstein Inst. for Med. and Northwell Hlth.

TUM.1257 **122.12** Immune modulation by combination type I interferon and checkpoint blockade therapy in murine urothelial carcinoma. **D. Plote, W. Choi, S. Mokkaapati, D. McConkey, K. Schluns and C. Dinney.** The Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas Hlth. Grad. Sch. of Biomed. Sci., Houston, The Univ. of Texas MD Anderson Cancer Ctr., Houston, James Buchanan Brady Urological Inst., Johns Hopkins Greenberg Bladder Cancer Inst., Johns Hopkins Univ., Sch. of Med., Baltimore, MD and The Univ. of Texas MD Anderson Cancer Ctr., Houston, Texas.

TUM.1258 **122.13** PD-1 blockade markedly enhances immunity to prostate tumors by adoptively transferred human V γ 2V δ 2 T cells in an NSG mouse model. **C. Morita, H. Wang and M. Nada.** Iowa City Veterans Hlth. Care Syst. and Univ. of Iowa Carver Col. of Med.

TUM.1259 **122.14** TLR and CLR agonists induce anti-tumor B cell responses against peritoneal carcinomatosis. **A. Dyevoich, M. Haro and K. Haas.** Wake Forest Sch. of Med.

TUM.1260 **122.15** Blocking colony stimulating factor 1 receptor (CSF-1R) and tropomyosin receptor kinase A (TrkA) improves the antitumor efficacy of immune checkpoint blockade. **C. Duffy, S. Mok and J. Allison.** The Univ. of Texas MD Anderson Cancer Ctr. and Univ. of Texas, Hlth. Sci. Ctr., Grad. Sch. of Biomed. Sci.

TUM.1261 **122.16** The Curative Effect of Cryptotanshinone and anti-PD-L1 on Mouse Hepatocellular Carcinoma. **Z. Han, S. Liu, H. Lin, A. Trivett, D. Yang and J. Oppenheim.** Frederick Natl. Lab. for Cancer Res., NCI, NIH, Guang'anmen Hosp. and China Acad. of Chinese Med. Sci., Beijing, China.

TUM.1262 **122.17** Myeloid derived suppressor cells (MDSC) and anti-MUC1 immunosurveillance in pre-malignancy and cancer. **P. Ma, P. Beatty, J. McKolanis, R. Schoen, R. Brand and O. Finn.** Tsinghua Univ., China and Univ. of Pittsburgh Sch. of Med.

TUM.1263 **122.18** NKT cell ligand-induced cytokines enhance antitumor effects with PD-1 blockade by reinvigorating exhausted CD8 T cells. **E-A. Bae, H. Seo, J. Choi, J. Lee and C-Y. Kang.** Seoul Natl. Univ., South Korea.

TUM.1264 **122.19** Improvement of agonist cancer immunotherapy by CD73 blockade. **S. Chen, J. Fan, M. Zhang, L. Qin, D. Dominguez, A. Long and B. Zhang.** Feinberg Sch. of Med., Northwestern Univ. and Zhengzhou Univ., China.

TUM.1265 **122.20** Targeting type I interferon tumor entry by anti-PD-L1 creates feedforward antitumor responses to overcome innate and adaptive resistance. **H. Tang, Y. Liang, J. Guo, X. Qiu, H. Peng and Y-X. Fu.** Univ. of Texas Southwestern Med. Ctr., Inst. of Biophysics and Chinese Acad. of Sci., China.

- TUM.1266 **122.21** Combination therapy of adoptive T cell therapy and immune checkpoint blockades engages distinct mechanisms in CD4⁺ and CD8⁺ T cells. **L. Shi, J. Gao, J. Allison and P. Sharma.** Case Western Reserve Univ. and MD Anderson Cancer Ctr.
- TUM.1267 **122.22** Bifidobacterium can mitigate intestinal immunopathology in the context of immune checkpoint blockade. **F. Wang, S. Sun, Q. Yin, L. Chen and M. Davis.** Shanghai Jiao Tong Univ. Sch. of Med., China and Stanford Univ. Sch. of Med.
- TUM.1268 **122.23** Autophagy-deficient breast cancer shows early escape from dormancy and recurrence following chemotherapy. **H. Aqbi, T. Smith, S. Butler, M. Idowu, K. Payne and M. Manjili.** Virginia Commonwealth Univ., Massey Cancer Ctr. and H. Lee Moffitt Cancer Ctr. and Res. Inst.
- TUM.1269 **122.24** WITHDRAWN.
- TUM.1270 **122.25** Single Cell RNA Sequencing of Lung Adenocarcinoma Reveals Heterogeneity of Immune Response-related Genes. **K. Ma, A. Schonnesen, A. Brock, C.V.D. Berg, S.G. Eckhardt, Z. Liu and N. Jiang.** The Univ. of Texas at Austin, LIVESTRONG Cancer Inst., The Fifth Affiliated Hosp. of Guangzhou Med. Univ., China and Univ. of Texas, Austin.
- TUM.1271 **122.26** Immunological Insights Into Liver Metastasis Associated Resistance To Checkpoint Blockade Cancer Immunotherapy. **J. Lee, S. Mehdizadeh, K. Tsai, A. Algazi, M. Rosenblum, A. Daud and J. Bluestone.** Univ. of California, San Francisco.
- TUM.1272 **122.27** Commensal dysbiosis modulates the tumor microenvironment in breast cancer and diminishes efficacy of PD-L1 inhibition. **M. Rutkowski, C. Rosean, R. Bostic and T-Y. Feng.** Univ. of Virginia.
- TUM.1273 **122.28** Linkage between TIM3 genotype and human HER2 vaccine response in Diversity Outbred (DO) HER2 transgenic (Tg) mice. **H. Gibson, R. Jones, G. Dyson, J. Reyes, J. Morris and W-Z. Wei.** Barbara Ann Karmanos Cancer Inst., Wayne State Univ. and Univ. of Cincinnati
- TUM.1274 **122.29** Synergy of an anti-HER2 ADC TAK-522 (XMT-1522) in combination with anti-PD1 monoclonal antibody (mAb) in a syngeneic breast cancer model expressing human HER2. **M. Khattar, T. Traore, K. Horton, M. Gallery, P. Brauer, J. Riceberg, N. Bodyak, M. Protopopova, Q. Zhang, T. Lowinger, P. Veiby, D. Huszar and F. Wang.** Takeda Pharmaceuticals and Mersana Therapeutics.
- TUM.1276 **123.2** Targeting therapy to overcome BCL-2 inhibitor resistance in aggressive B-cell lymphomas. **J. Zhang, K. Young and L. Pham.** Univ. of Texas and MD Anderson Cancer Ctr.
- TUM.1277 **123.3** A B Cell Lymphoma-Associated LncRNA Modulates BCR-Mediated Calcium Signaling. **J. Payton, S. Pyfrom, H. Luo and E. Oltz.** Washington Univ. Sch. of Med.
- TUM.1278 **123.4** Chemotherapeutic drugs induce expression of CS1 (CD319) in multiple myeloma cells resulting in enhanced NK cell mediated killing. **J. Malaer and P. Mathew.** Univ. of North Texas Hlth. Sci. Ctr.
- TUM.1279 **123.5** Mapping the transcriptome and epigenomic landscape of HDAC-inhibitor resistant CTCL. **J. Andrews, J. Schmidt and J. Payton.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. Sch. of Med.
- TUM.1280 **123.6** Unique molecular identifiers of indolent versus aggressive phenotyping in non-Hodgkin lymphoma: spotlight on SMZL. **J. Robinson and C. Cutucache.** Univ. of Nebraska, Omaha.
- TUM.1281 **123.7** Approaches to reverse interleukin-10 mediated immunosuppression in chronic lymphocytic leukemia. **J. Rivas, S. Alhakeem, J. Eckenrode, Y. Zhang, J. Collard, V. Rangnekar, N. Muthusamy, J. Thorson, M. Leggas and S. Bondada.** Univ. of Kentucky and Ohio State Univ.
- TUM.1282 **123.8** Cdc42: a new therapeutic target in drug-resistant multiple myeloma. **T.T.P. Nguyen, J. Chakrabart and F. Guo.** Cincinnati Children's Hosp. Med. Ctr.
- TUM.1283 **123.9** A clonotype-independent pre-TCR complex and its downstream signals can support transformation of thymic T cells. **K. Hathcock, J. An and R. Hodes.** NCI, NIH and NIA, NIH.

124. ILCS IN TUMOR IMMUNITY AND IMMUNOTHERAPY

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- TUM.1284 **124.1** IL-17C inhibits the development of hepatocellular carcinoma through the modulation of gut microbiota. **H. Gong, S. Ma, C. Dong and H. Liu.** Soochow Univ., China, Tsinghua Univ., China and Natl. Univ. of Singapore, Singapore.
- TUM.1285 **124.2** Glycolipid stimulation of invariant NKT cells mobilizes precursors of mature NK cells and potentiates their participation in immune surveillance against metastatic cancer. **J. Choi, C. Chan, S. Lesage and S.M.M. Haeryfar.** Univ. of Western Ontario, Canada and Univ. of Montreal, Canada.

123. HEMATOPOIETIC CANCERS

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- TUM.1275 **123.1** Long Non-Coding RNAs Regulate Transcription of Lymphoma Oncogenes. **N. Beri, S. Pyfrom, E. Oltz and J. Payton.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. Sch. of Med.

SUNDAY—POSTER SESSIONS

- TUM.1286 **124.3** Intratumoral CD56^{BRIGHT} Natural Killer cells are associated with improved survival in bladder cancer. **N. Mukherjee, N. Ji, M. Tomasini, V. Hurez, T. Curiel, M. Montgomery, A. Braun, M. Nicolas, M. Aguilera, Q. Liu, J. Ruan and R. Svatek.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, and Univ. of Texas, San Antonio.
- TUM.1287 **124.4** Enhanced killing of triple-negative breast cancer cells by blocking LLT1-CD161 inhibitory signal to NK cells. **A. Marrufo, S. Mathew, P. Chaudhary and P. Mathew.** Univ. of North Texas Hlth. Sci. Ctr.
- TUM.1288 **124.5** Thymoquinone enhanced the tumoricidal activity of NK Cells against Lung Cancer. **S. Singh, M. Mishra, J. Lillard and R. Singh.** Morehouse Sch. of Med. and Alabama State Univ.
- TUM.1289 **124.6** A distinct human NKp30+FcεRIγ+CD8+ T cell population exhibiting high NK-like anti-tumor potential. **M. Correia, A. Stojanovic, K. Bauer, D. Juraeva, L. Tykocinski, H-M. Lorenz, B. Brors and A. Cerwenka.** German Cancer Res. Ctr., Germany, Heidelberg Univ. Hosp., Germany and Ruprecht Karls Univ. Heidelberg, Germany.
- TUM.1290 **124.7** Role of liver-resident innate lymphocytes in tumor progress. **H. Song, H. Peng, R. Sun and Z. Tian.** Univ. of Sci. and Technol. of China.
- TUM.1291 **124.8** Metastasis-specific, NK cell-mediated, immune surveillance of lung cancer. **P. Chockley and V. Keshamouni.** Univ. of Michigan.
- TUM.1292 **124.9** Notch-mediated crosstalk of antitumor CD8⁺T and NK cells. **P. Thomas, R. Uzhachenko and A. Shanker.** Meharry Med. Col. and Meharry Med. Col. Sch. of Med.
- TUM.1293 **124.10** Multiple defects in NK cells of surgically resectable pancreatic cancer patients can be reversed by *ex-vivo* stimulation. **S. Jeon, S.A. Lim, J. Kim, M.H. Shin, J. Kwon and K-M. Lee.** Korea Univ. of Korea Col. of Med., South Korea and MD Anderson Cancer Ctr., South Korea.
- TUM.1294 **124.11** The inhibitory NKR-P1B:Clr-b recognition axis facilitates detection of oncogenic transformation and cancer immunosurveillance. **M. Tanaka, J. Fine, O. Aguilar, C. Kirkham, A. Belcheva, A. Martin, T. Ketela, J. Moffat, D. Allan and J. Carlyle.** Univ. of Toronto, Canada, Sunnybrook Res. Inst., Canada and Donnelly Cent. for Cellular and Biomol. Res., Canada.
- TUM.1295 **124.12** Cell-intrinsic and spatially divergent tumor programmed death ligand 1 (PD-L1) signals modify local and systemic anti-tumor immunity through novel chemokine effects. **T. Curiel, H. Gupta, A. Padron, S. Pandeswara, G. Sareddy, B. Yuan, R. Reyes, M.J. Turk, V. Hurez, R. Li, R. Vadlamudi and C. Clark.** Univ. of Texas Hlth. Sci. Ctr., San Antonio and Dartmouth Geisel Sch. of Med.
- TUM.1296 **124.13** Type 2 innate lymphoid cells impair IL-33-mediated tumor suppression. **A. Long, D. Dominguez, L. Qin, M. Zhang, J. Fan and B. Zhang.** Feinberg Sch. of Med., Northwestern Univ. and Zhengzhou Univ., China.
- TUM.1297 **124.14** Tim-3 and TIGIT mark Natural Killer cells susceptible to effector dysfunction in human bladder cancer. **A. Farkas, F. Audenet, H. Anastos, M. Galsky, J. Sfakianos and N. Bhardwaj.** Icahn Sch. of Med., Mount Sinai, Georges Pompidou European Hosp. and Paris Descartes Univ., France.

125. EFFICACY OF VACCINES AND IMMUNOTHERAPIES: CELLULAR AND MOLECULAR REGULATION

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- VAC.1298 **125.1** Nanoemulsion adjuvant augments retinaldehyde dehydrogenase activity in dendritic cells and regulates expression of gut homing receptors on T cells. **M. Farazuddin, R. Goel, J. Landers, N. Kline, N. Toufaily, P. Uppula, J. O'Konek and J. Baker,** Univ. of Michigan Med. Sch.
- VAC.1299 **125.2** Protective efficacy against live *Chlamydia muridarum* intravaginal challenge in BALB/c mice immunized with MOMP encapsulated PLGA 85/15 nanoparticles. **R. Sahu, R. Verma, S. Dixit, S. Duncan, S. Singh and V. Dennis.** Ctr. for Nanobiotechnology Res., Alabama State Univ., and NIEHS, NIH.
- VAC.1300 **125.3** Immunomodulatory activity of 2-deoxyguanosine nanoparticles in DNA vaccines. **S. Santos-Colón, M. Ramírez, E. Miranda, N. Reyes, O. Martinez, M. Acosta, J. Rivera and M. Otero.** Univ. of Puerto Rico-Med. Sci. Campus, Puerto Rico, Universidad del Este, Puerto Rico and Univ. of Puerto Rico-Río Piedras Campus, Puerto Rico.
- VAC.1301 **125.4** An multivalent vaccine elicits protective Th17 response via activation of C-type lectin receptor- and Card9-mediated signal against pulmonary *Coccidioides posadasii* infection. **C-Y. Hung, H. Zhang, A. Campuzano, G. Ostroff and J.J. Yu.** Univ. of Texas, San Antonio, and Univ. of Massachusetts Med. Sch.
- VAC.1302 **125.5** A Bovine Adenovirus (BAdv) Expressing Mycobacterial Secreted Ag85B and a TLR-2 Stimulating Adjuvant Peptide Induces Robust Antigen Presentation In vitro and Improved Protection against Tuberculosis in Mice. **A. Khan, A. Mani, S-A. Hwang, L. Mann, R. Papanna, J. Won, D. Canaday, R. Hunter, J. Wang, S. Mittal and C. Jagannath.** Univ. of Texas Hlth. Sci. Ctr., Houston, Univ. of Texas Houston, Case Western Reserve Univ., Houston Methodist Res. Inst. and Purdue Univ.
- VAC.1303 **125.6** WITHDRAWN.

No photography of any sort is allowed in lecture or poster sessions.

- VAC.1304 **125.7** Therapeutic immunizations control bacterial burden and increase survival in a preclinical mouse model of *Mycobacterium tuberculosis*. **S. Larsen, S. Baldwin, M. Orr, V. Reese, T. Pecor, B. Granger, N.D. Cauwelaert, B. Podell and R. Coler.** Infectious Des. Res. Inst., Univ. of Washington, Colorado State Univ. and PAI Life Sci.
- VAC.1305 **125.8** Safety, tolerance, and effects on alveolar macrophages of a nebulized TLR agonist combination in foals. **A. Bordin, J. Bray, J. Rocha, D. Markesich and N. Cohen.** Texas A&M Univ. and Pulmotect, Inc.
- VAC.1306 **125.9** Polarization of Acellular Pertussis Vaccine-primed Immune Response to the T_H17 Response. **P. Kapil and T. Merkel.** CBER, FDA.
- VAC.1307 **125.10** The immune enhancement activity of exopolysaccharide from marine bacteria on the IBDV immune response induced by B87 vaccine. **X. He and P. Wei.** Guangxi Univ., China, Guangxi Univ. for Nationalities, China and Univ. of Michigan Med. Sch.
- VAC.1308 **125.11** Reduced germinal center formation is not sufficient to promote cross-reactive protection against influenza. **J. Johnson, R. Keating, P. Thomas and M. McGargill.** St. Jude Children's Res.Hosp.
- VAC.1309 **125.12** Memory CD4⁺ T cells guide memory B cell adaptability to drifting influenza vaccination. **E. Gage, N.V. Hoeven and R. Coler.** Infectious Dis. Res. Inst.
- VAC.1310 **125.13** Molecular characterization of combination pattern recognition receptor agonist exposure on dendritic cell responses. **D. Brown, A. Lampe, J. Hain and A. Pannier.** Univ. of Nebraska-Lincoln, and Nebraska Wesleyan Univ.
- VAC.1311 **125.14** Mucosal immunity and protective efficacy of inactivated influenza virus vaccine is improved by intranasal chitosan nanoparticle delivery in pigs. **S. Dhakal, S. Renu, S. Ghimire, Y. Lakshmanappa, B. Hogshead, N. Ruiz, S. Krakowka, C-W. Lee and R. Gourapura.** Food Animal Hlth. Res. Program, OARDC and The Ohio State Univ.
- VAC.1312 **125.15** Pattern recognition receptor agonists enhance protection elicited by a single, low dose protein vaccine in an immunization route-specific manner. **A. Lampe, J. Hain, E. Farris, A. Pannier and D. Brown.** Univ. of Nebraska, Lincoln and Nebraska Wesleyan Univ.
- VAC.1313 **125.16** Investigation of novel TLR7/8 ligands in combination with TLR4 ligands as adjuvants to drive cell mediated anti-influenza immunity. **S. Miller, V. Cybulski, L. Walsh, M. Livesay, L. Bess, D. Burkhart, H. Bazin-Lee and J. Evans.** Univ. of Montana.
- VAC.1314 **125.17** Poly-gamma glutamic acid/alum enhances the efficacy of vaccine antigen by modulating antigen transport to lymph nodes and the adaptive immune responses. **Q. Nguyen, J. Yang, J. Kim, C. Kwak and H. Poo.** Korea Res. Inst. of Bioscience and Biotechnology, South Korea.
- VAC.1315 **125.18** Antibody levels to Influenza A are greater in adults with Trisomy 21 but are less functional compared to disomic adults. **S. King, S. Kusher, B. Jacobs and S. James.** Regis Univ.
- VAC.1316 **125.19** CD8⁺ T cells control HSV-1 replication in the nervous system but not the cornea in HSV-1 0ΔNLS-vaccinated mice lacking virus-neutralizing antibody. **D. Carr, M. Montgomery and D. Royer.** Univ. of Oklahoma Hlth. Sci. Ctr.
- VAC.1317 **125.20** Finding the balance between protective and pathologic vaccine induced immunity using LCMV specific T lymphocytes. **E. Luna.** Arizona State Univ.
- VAC.1318 **125.21** Aberrant innate immune activation facilitates EcoHIV evasion from vaccine-induced protection. **L. Liu, J. Peng, H. Tang, H. Kwok, K. Nishiura, Q. Lin, J. Fang and Z. Chen.** The Univ. of Hong Kong.
- VAC.1319 **125.22** Differential T follicular helper cell responses induced by candidate HIV vaccine strategies utilizing ALVAC versus Ad5 vectors. **S. Auclair, L. Soong and H. Hu.** Univ. of Texas Med. Br., Galveston.
- VAC.1320 **125.23** CD8⁺ T cell-mediated inhibition of HIV-1. **Y. Xu, M. Abad, J. Warren, G. Clutton and N. Goonetilleke.** Univ. of North Carolina, Chapel Hill.
- VAC.1321 **125.24** Induction and relationship of HIV Envelope-specific B cells in the peripheral blood and bone marrow following vaccination in humans. **J. Kobie, M. Basu, M. Piepenbrink, C. Francois, F. Roche, C. Fucile, A. Rosenberg, J. Liesveld and M. Keefer.** Univ. of Rochester Med. Ctr. and Univ. of Alabama, Birmingham.
- VAC.1322 **125.25** HIV vaccine mimicking the RV144 regimen tightly controls and ablates SHIV BaL.P4 infection in rhesus macaques. **A. Hessel, S. Pandey, W. Sutton, L. Liu, X-P. Kong, N. Haigwood and M. Gorny.** Oregon Hlth. & Sci. Univ. and New York Univ. Sch. of Med.
- VAC.1323 **125.26** Analysis of dendritic cell activation by differential filovirus GP concentration in virus-like particle vaccines. **K. Charley, E. Clarke and S. Bradfute.** Univ. of New Mexico Hlth. Sci. Ctr.
- VAC.1324 **125.27** Rescue of vaccine immunity with nicotine and isoproterenol after total body irradiation. **D. Gandhi, M. Lehtimaki, R. Surujdin, J. Aryankalyil, H. McFarland and A. Rosenberg.** CDER, FDA.
- VAC.1325 **125.28** Metabolic activity as a surrogate marker of immune cell activation following vaccination. **A. Waickman, H. Friberg, R. Jarman and J. Currier.** Walter Reed Army Inst. of Res.
- VAC.1326 **125.29** Type II interferon signaling plays a critical role in inducing T helper type 1 immune responses and adaptive immunity after influenza vaccination. **K-H. Kim, Y-T. Lee, H.S. Hwang, E-J. Ko, Y. Lee, Y-J. Jung and S-M. Kang.** Georgia State Univ.

126. INNATE AND ADAPTIVE IMMUNITY TO VIRUSES

Poster Session

SUN. 2:30 PM—EXHIBIT/POSTER HALL

- VIR.1328 **126.1** IL-1 cytokines promote ADAMTS-mediated remodeling of the lung extracellular matrix during severe influenza A infection in mice. **D. Boyd, X. Guo and P. Thomas.** St. Jude Children's Res. Hosp.

SUNDAY—POSTER SESSIONS

- VIR.1329 **126.2** Immunoprotective $\gamma\delta$ T cell subsets in the cornea during early HSV-1 infection. **S. Fitzpatrick, R. Lausch and R. Barrington.** Univ. of South Alabama.
- VIR.1330 **126.3** Cytomegalovirus blockade of TRAIL-mediated type 1 ILC defenses regulates viral persistence. **G. Picarda, B. McDonald, G. Dodard, S. Verma, R. Ghosh, R. Morabiti, N. Thiault, L. Brossay, T. Griffith and C. Benedict.** La Jolla Inst. for Allergy and Immunology, Brown Univ. and Univ. of Minnesota.
- VIR.1331 **126.4** *Nmp4*-deficiency protects mice from influenza A virus infection. **S. Yang, M. Adaway, J. Sun, J. Bidwell and B. Zhou.** Indiana Univ. Sch. of Med. and Mayo Clin.
- VIR.1332 **126.5** Z-DNA binding protein 1 (ZBP1) is an innate sensor of Influenza vRNPs and activates programmed cell death and assembly of NLRP3 inflammasome. **K. Sannula, T. Kuriakose, P. Samir, R.K.S. Malireddi and T-D. Kanneganti.** St. Jude Children's Res. Hosp.
- VIR.1333 **126.6** Natural killer cell regulation of HIV vaccine responses. **C. Rydyznski, J. McNally, I. Gyurova, S. Cranert and S. Waggoner.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med.
- VIR.1334 **126.7** Interleukin-36 cytokines regulate antiviral immunity in the skin and keratinocytes. **L. Jensen and P. Wang.** Temple Univ. Sch. of Med.
- VIR.1335 **126.8** A nuclear receptor involved in cholesterol metabolism regulates herpesvirus latency and reactivation. **T. Reese, L. Tao, A. Lowe, G. Wang and C. Zarek.** Univ. of Texas Southwestern Med. Ctr.
- VIR.1336 **126.9** WITHDRAWN.
- VIR.1337 **126.10** Memory T cell responses in survivors of the 2013–2016 West African Ebola outbreak. **B. Sullivan, S. Sakabe, J. Hartnett, A. Goba, M. Momoh, J. Sandi, J. Schieffelin, J. de la Torre, D. Grant, R. Garry and M. Oldstone.** Scripps Res. Inst., Tulane Univ. Sch. of Med., Kenema Government Hosp., Sierra Leone and Ministry of Hlth. and Sanitation, Sierra Leone.
- VIR.1338 **126.11** Dynamics of adaptive natural killer cells in longitudinal analysis of CMV vaccine recipients. **I. Gyurova, H. Schlums, D. Bernstein, Y. Bryceson and S. Waggoner.** Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati Col. of Med. and Karolinska Inst., Sweden.
- VIR.1339 **126.12** Activated macrophages as pathogenesis factors in Ebola virus disease in humans. **A. McElroy, P. Shrivastava-Ranjan, J. Harmon, R. Martinez, L. Silva-Flannery, T. Flietstra, C. Kraft, A. Mehta, G.M. Lyon, J. Varkey, B. Ribner, S. Nichol, S. Zaki and C. Spiropoulou.** CDC, Emory Univ. Sch. of Med. and Univ. of Pittsburgh Sch. of Med.
- VIR.1340 **126.13** A viral homologue of IPS-1 Interacts with TRAF3 leading to a diminished antiviral state. **B. He, J.C. Sanchez and D.J. Sanchez.** Western Univ. of Hlth. Sci., California State Polytechnic Univ., Pomona.
- VIR.1341 **126.14** Loss of Ccr5 signaling enhances intrahepatic innate immune populations and liver inflammation in a mouse model of acute hepatitis B. **K. Stevens, C. Thio and W. Osburn.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Johns Hopkins Univ. Sch. of Med.
- VIR.1342 **126.15** Rig-I-Like Receptors (RLRs) regulate humoral immunity to West Nile Virus (WNV) infection. **D. Schenten and M. O'Ketch.** Univ. of Arizona.
- VIR.1343 **126.16** Discrepancy between neurokinin 1 receptor antagonist treatment and neurokinin 1 receptor knockout mice in the CD8 T cell response to corneal HSV-1 infection. **A. Jerome and S. Suvas.** Wayne State Univ. Sch. of Med.
- VIR.1344 **126.17** Female sex hormones regulate the IL-36 family members in the female reproductive tract and impact HSV-2 pathogenesis. **J. Gardner, T. Alexander and M. Herbst-Kralovetz.** Univ. of Arizona and Arizona State Univ.
- VIR.1345 **126.18** Poxvirus subversion of B7-mediated T cell co-stimulation. **J. Elliott, X. Wang, S. Piersma, C. Nelson, W. Yokoyama and D. Fremont.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1346 **126.19** Metformin alleviates liver injury through mTOR-mediated T cell regulation in viral hepatitis in mice. **J. Sun, Y. Liang and L. Xu.** Univ. of Texas Med. Br., Galveston and Wenzhou Med. Univ, China.
- VIR.1347 **126.20** Microglia mount a robust immune response to Rift Valley Fever virus that is dependent on MAVS and independent of TLR7. **D. Weilhammer, F. Bourguet and A. Rasley.** Lawrence Livermore Natl. Lab.
- VIR.1348 **126.21** Ectromelia virus suppresses cathepsins and cystatins expression at both mRNA and protein levels in dendritic cells. **M. Bossowska-Nowicka, M. Mielcarska, M. Kaczmarek, M. Romaniewicz, J. Struzik, F. Toka and L. Szulc-Dabrowska.** Warsaw Univ. of Life Sci., Poland, Inst. of Animal Reproduction and Food Res., Polish Acad. of Sci., Poland and Ross Univ. Sch. of Vet. Med., St. Kitts, Nevis.
- VIR.1349 **126.22** Endothelial dysfunction in the pathogenesis of acute Lassa Fever. **L. Horton, B. Sullivan, R. Garry, D. Grant and M. Oldstone.** The Scripps Res. Inst., Tulane Univ. Sch. of Med. and Kenema Government Hosp., Sierra Leone.
- VIR.1350 **126.23** An interferon-inducible mitochondrial circuit implicated in cell death, regulated by miRNAs, and conserved in vertebrates uncovered by evolution-guided studies. **D. Hancks and N. Elde.** Univ. of Texas Southwestern Med. Ctr. and Univ. of Utah Sch. of Med.
- VIR.1351 **126.24** Development of a computational model to quantify antigenic similarity between Dengue viruses. **B. Smith and D. Fremont.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1352 **126.25** Validation of a fluorescent microsphere multiplex serology assay for differential diagnosis of exposure to Zika virus and other closely related arboviruses. **N. Venkateswaran, J. Sarwar, N. Parameswaran, K. Krishnan and W.M. Nelson.** Tetracore Inc., Omni Array Biotechnol. LLC. and California State Univ., Fresno.

- VIR.1353 **126.26** West-Nile virus replicon particles infect 293T cells expressing DC-SIGNR. **H. Kunkel, E. Budimlic, J. Keilty, M. Schmitz, A. Madigan, N. Crowson, N. Leonard, V. Schwarzinger, A. Meyer, M. Soderlund and O. Martinez.** Winona State Univ.
- VIR.1354 **126.27** Structural and Antigenic Features of Powassan Virus Envelope Protein. **J. Errico, L. VanBlargan, C. Nelson, M. Diamond and D. Fremont.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1355 **126.28** HPV18 E1-antigen specific CD8+ T cells show cross-reactivity against cells expressing E1 from HPV16, 31, 33 and 53. **A. Amador, J.C. Amador and M. Lizano.** Instituto Nacional de Cancerologia, Mexico, Tecnologico de Monterrey, Campus Estado de Mexico, Mexico and Instituto Nacional de Cancerologia, Mexico.
- VIR.1356 **126.29** Anti-inflammatory effects of PUFA's on T cells reduce TCR affinity for antigen. **E. Kolawole and B. Evavold.** Univ. of Utah Sch. of Med.
- VIR.1357 **126.30** An in vitro/ex vivo human lung infection model for studying the macrophage innate immune response to Ebola virus *Kikwit*. **N. Josleyn, A. Kuehne, C. O'Brien, J. Brannan, D. Edwards, R. Parkhill and J. Dye.** U.S. Army Med. Res. Inst. of Infectious Dis. and Sanofi Pasteur VaxDesign Corp.
- VIR.1358 **126.31** Effect of interferon- λ 1 on the secretion of IP-10 by hepatitis C virus-infected cells and the migration of natural killer cells. **J.C. Yoon and W. Lee.** Ewha Womans Univ. Col. of Med., South Korea.
- VIR.1359 **126.32** Cytokine and chemokine profiles in a human respiratory disease model of Ebola virus. **C. O'Brien, J. Brannan, A. Kuehne, N. Josleyn, R. Parkhill, D. Edwards and J. Dye.** U.S. Army Med. Res. Inst. of Infectious Dis. and Sanofi Pasteur VaxDesign Corp.
- VIR.1360 **126.33** Structural characterization of broadly neutralizing alphavirus antibodies. **K. Basore, J. Earnest, M. Diamond and D. Fremont.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1361 **126.34** Interleukin-17A Signaling Facilitates Chikungunya Virus Infection in Mice. **F. Bai, B. Neupane, G. Gonzalez-Fernandez and E. Thompson.** The Univ. of Southern Mississippi.
- VIR.1362 **126.35** Role of Type I IFN signaling in induction of humoral response induced by viral vectored vaccines. **F. Liu, Q. Niu, Y. Liang, J. Sun and H. Hu.** Univ. of Texas Med. Br., Galveston.
- VIR.1363 **126.36** Type I and III interferon signaling contributes to severe pathogenesis of human metapneumovirus clinical isolates. **J. Xu, Y. Zhang, S. Tollefson, M. Manni, K. McHugh, J. Alcorn, S. Sarkar, J. Williams.** Univ. of Pittsburgh Sch. of Med., Tsinghua Univ., China, Children's Hosp. of Pittsburgh and Vanderbilt Univ. Sch. of Med.



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MONDAY MORNING

MAY 7

127. MAJOR SYMPOSIUM E: DEVELOPING MORE EFFECTIVE CANCER IMMUNOTHERAPIES**Major Symposium**

MON. 8:00 AM—BALLROOM D

CHAIRS: R.D. Schreiber, N. Bhardwaj

- 8:00 Immune checkpoint blockade in cancer therapy: new insights and opportunities, and prospects for cures. **J. Allison**. Univ. of Texas MD Anderson Cancer Ctr.
- 8:35 Elucidating the fundamental principles of personalized cancer vaccines. **R. Schreiber**. Washington Univ. Sch. of Med.
- 9:10 Targeting dendritic cells to modulate antitumor immunity. **N. Bhardwaj**. Icahn Sch. of Med., Mount Sinai.
- 9:45 Insights into the mechanisms regulating antigenicity and adjuvanticity of irradiated tumors. **S. Demaria**. Weill Cornell Med.
- 10:20 A personal neoantigen vaccine in patients with high risk melanoma. **P. Ott**. Dana Farber Cancer Inst., Brigham and Women's Hosp. and Harvard Med. Sch.
- 10:55 Engineering T cell responses to effectively target and then eliminate tumors. **P. Greenberg**. Univ. of Washington and Fred Hutchinson Cancer Res. Ctr.

128. MAJOR SYMPOSIUM F: IMMUNE—MICROBE COEVOLUTION**Major Symposium**

MON. 8:00 AM—BALLROOM EFG

CHAIRS: L. Osborne, J.S. Ayres, L. Osborne

- 8:00 Host-microbe interactions: harnessing co-evolution to treat disease. **J. Ayres**. Salk Inst.
- 8:35 Microbial interactions in HIV infection. **N. Klatt**. Univ. of Washington.
- 9:10 Lessons from novel viruses in infection and immunity. **D. Wang**. Washington Univ. Sch. of Med.
- 9:45 Host-multibiome interactions in intestinal infection and inflammation. **L. Osborne**. Univ. of British Columbia, Canada.
- 10:20 How do inflammasomes detect rapidly evolving pathogens? **R. Vance**. HHMI and Univ. of California, Berkeley.

129. THE AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE (ASTMH) SYMPOSIA: IMMUNE LESSONS FROM PARASITES**Guest Society Symposium**

MON. 8:00 AM—ROOM 10AB

CHAIRS: C. Peterson, N. Butler

- 8:00 Alternatively activated macrophages during helminth infection. **P. Loke**. New York Univ.

- 8:30 The neuroimmunological niche of Toxoplasma infection. **E. Wilson**. Univ. of California, Riverside.
- 9:00 Bacterial co-infection in murine cutaneous leishmaniasis. **T. Borbon**. Univ. of Iowa.
- 9:30 Safety and immunogenicity of the novel Plasmodium falciparum blood stage vaccine RH5.1/AS01B in a phase 1/11a clinical trial. **A. Mossiman**. Univ. of Oxford.

130. INFLAMMATION AND DISEASE**Block Symposium**

MON. 8:00 AM—ROOM 18AB

CHAIRS: D. McVicar, Y. Liu

- 8:00 Suppression of CD8+ T cell and neutrophil function distinguishes ruxolitinib treatment from IFN γ neutralization in hemophagocytic lymphohistiocytosis. **S. Albeituni, K. Verbist, P. Tedrick, H. Tillman and K. Nichols**. St. Jude Children's Res. Hosp. (42.17)
- 8:15 Macrophage dependent pathways modulate the pathogenesis of cytokine storm syndrome. **S. Mahajan, C. Decker, E. Mellins and R. Faccio**. Washington Univ. in St. Louis and Stanford Univ. (42.18)
- 8:30 CCN3 Regulates Macrophage function in MSU-induced inflammation. **L. Duan, X. Zhou, J. Chen, X. Rao, Z. Lin and J. Zhong**. Case Western Reserve Univ., The First Affiliated Hosp. of Xiamen Univ., China, China and Emory Univ. Sch. of Med. (42.19)
- 8:45 Macrophage depletion results in anemia, neutrophilia, and is not an effective therapy for rescuing obesity-linked metabolic impairments. **J. Bader, R. Enos, K. Velazquez, M. Carson, A. Sougiannis, O. McGuinness, M. Nagarkatti, P. Nagarkatti, C. Robinson, D. Fan and E.A. Murphy**. Univ. of South Carolina Sch. of Med., Vanderbilt Univ. and West Virginia Univ. (42.20)
- 9:00 Aortic intima microenvironment instructs macrophage gene expression signature in steady state and progressing atherosclerosis. **J. Williams, K. Zaitsev, K. Kim, K. Kim, B. Zinselmeyer, J-H. Choi, M. Artyomov and G. Randolph**. Washington Univ. in St. Louis, and Hanyang Univ., South Korea. (42.21)
- 9:15 The role of innate lymphoid cells in the heart and cardiac inflammation. **H. Sun Choi, X. Hou, W. Bracamonte-Baran, N. Diny, M. Talor and D. Cihakova**. Johns Hopkins Univ. Sch. of Med., Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Francis Crick Inst., United Kingdom. (42.22)

- 9:30 TREML4 affects lesion composition but not calcification in the Apolipoprotein E deficient model of experimental Atherosclerosis. **M. Gonzalez Cotto, L. Guo, M. Karwan, E. Palmieri, K. Boelte, L. Quigley, S. Sen, L. Biesecker and D. McVicar.** NCI, NIH, CvPath Inst., and NHGRI, NIH. (42.23)
- 9:45 IL-17A-induced hematopoietic reprogramming produces both PMN and MDSC at the post-acute stage of inflammation. **C. Culpepper, A. Tremblay, Z. Bian, S. Niu and Y. Liu.** Georgia State Univ. (42.24)

131. HEMATOPOIESIS AND B CELL DEVELOPMENT

Block Symposium

MON. 8:00 AM—ROOM 16AB

CHAIRS: L. Borghesi, H. Zeng

- 8:00 Bone marrow lympho-myeloid malfunction in obesity requires precursor cell-autonomous TLR4. **L. Borghesi, A. Liu, M. Chen, M. Stefanovic-Racic, R. Kumar, R.O'Doherty, Y. Ding and W. Jahnen-Dechent.** Univ. of Pittsburgh Sch. of Med., Univ. of North Carolina, Chapel Hill, Univ. of Pittsburgh Grad. Sch. of Publ. Hlth. and Univ. Hosp. Aachen. (103.3)
- 8:15 HSC-requirement for macrophage regeneration is tissue-specific. **E. Ghosn, H. Kuipers, J. Waters, J. Sosa, M. Phillips and L. Herzenberg.** Emory Univ. and Stanford Univ. (103.8)
- 8:30 Common lymphoid progenitor derivation of a conserved dendritic cell subtype is mediated by Bcl11a. **J. Dekker, C. Rhee, Z. Hu, B-K. Lee, J. Lee, V. Iyer, L. Ehrlich, G. Georgiou, G. Ippolito and H. Tucker.** Univ. of Texas, Austin and Univ. of California, San Francisco. (103.7)
- 8:45 Ikaros regulates epigenetic and transcriptional programs in progenitor B cell leukemia. **H. Schjerven, E. Ayongaba, P. Rodriguez and S. Frieze.** Univ. of California, San Francisco, Oslo Univ. Hosp., Norway, Univ. of Oslo, Norway and Univ. of Vermont. (103.27)
- 9:00 Discrete roles and bifurcation of PTEN signaling and mTORC1-mediated anabolic metabolism underlie IL-7-driven B lymphopoiesis. **H. Zeng, W. Su, H. Shi and H. Chi.** Mayo Clin. and St. Jude Children's Res. Hosp. (103.18)
- 9:15 ABCB7 is required for B lymphocyte development. **M. Lehrke, J. Young Chung, A. Schwab, M. Shapiro and V. Shapiro.** Mayo Clin. (103.25)
- 9:30 The ion channel TRPM7 is required for B cell lymphopoiesis. **B. Treanor, F. M. Buhari, T. Zhao, P. Brauer, K. Burrows, E. Cao, V. Moxley-Paquette, A. Mortha, J. C. Zúñiga-Pflücker and M. Krishnamoorthy.** Univ. of Toronto, Canada and Sunnybrook Res. Inst., Canada. (103.23)
- 9:45 Distinct tissue specific functions for bone marrow regulatory T cells. **V. Camacho, S. Wolock, D. Tenen and R. Welner.** Univ. of Alabama, Birmingham, Harvard Med. Sch. and Beth Israel Deaconess Med. Ctr. (103.5)

132. INNATE IMMUNITY

Block Symposium

MON. 8:00 AM—ROOM 19AB

CHAIRS: T. Petro, B. Igyarto

- 8:00 p38 MAPK is critical for nuclear translocation of IRF-7 during CpG-induced type I IFN expression in human plasmacytoid dendritic cells. **Q. Wang, N. Reszka-Blanco, L. Cheng, G. Li and L. Zhang, L. Su.** Univ. of North Carolina, Chapel Hill and Inst. of Biophysics, Chinese Acad. of Sci., China. (109.6)
- 8:15 NF- κ B c-Rel Dictates the Inflammatory Threshold by Acting as a Transcriptional Repressor. **P. Ramakrishnan, T. de Jesus and S. Shukla.** Case Western Reserve Univ. (109.9)
- 8:30 Chromatin accessibility modulates the induction of innate immunity in cells of myeloid lineage. **R. Song, I. Dozmorov, B. Wakeland, C. Arana, C. Liang, B. Zhang, J. Zhou, C. Pasare and E. Wakeland.** Univ. of Texas Southwestern Med. Ctr. (109.24)
- 8:45 Keratinocytes affect biology of Langerhans cells through mRNA transfer. **Q. Su and B. Igyártó.** Baylor Inst. for Immunology Res. (109.12)
- 9:00 STAT5b Isoform Controls IgE-mediated Mast Cell Function. **K. Kiwanuka and J. Ryan.** Virginia Commonwealth Univ. (109.17)
- 9:15 Structural, functional, and evolutionary differences between PD-L1 and PD-L2. **E. Phillips, A. Techova, A. Mor and X. Kong.** New York Univ. Sch. of Med. (109.19)
- 9:30 Immunization elicits antigen-specific antibody sequestration in sensory neurons. **S. Chavan, M. Gunasekaran, P. Chatterjee, A. Shih, G. Kumar, A. Lee, J. Graf, D. Meyer, M. Marino, C. Puleo, J. Ashe, C. Metz and K. Tracey.** Feinstein Inst. for Med. Res., and GE Global Res. Ctr. (109.20)
- 9:45 A Non-Canonical Role for Interferon Regulatory Factor 3 Downstream of the Interferon Gamma Receptor. **Z. Guinn and T. Petro.** Univ. of Nebraska, Lincoln and Univ. of Nebraska Med. Ctr. (109.21)

133. CELLULAR IMMUNE RESPONSES AT THE MUCOSA

Block Symposium

MON. 8:00 AM—ROOM 12AB

CHAIRS: Y. Cong, P. Casali

- 8:00 Fluid absorption modulates Peyer's patch homeostasis and mucosal antibody responses. **J. Chang, E. Gressier and S. Turley, M. Carroll.** Harvard Med. Sch., Univ. of Melbourne, Australia, Genentech, Inc. and Boston Children's Hosp. (118.1)
- 8:15 Anatomically remote education of B cells is required for colonic health. **N. Surana and D. Kasper.** Boston Children's Hosp. and Harvard Med. Sch. (118.2)
- 8:30 B cell-intrinsic epigenetic modulation of local and systemic antibody response by gut microbiota through catabolic short-chain fatty acids. **H. Sanchez, H. Gan, J. Moroney, C. Daw, J. Taylor, H. Zan and P. Casali.** Univ. of Texas Hlth. Sci. Ctr., San Antonio. (118.3)

MONDAY—AM

- 8:45 Novel role of intestinal Goblet cells and Goblet Cell Associated Antigen Passages in induction of tolerance to dietary antigens and promoting intestinal homeostasis. **D. Kulkarni, J. Gustafsson, K. McDonald, K. Knoop, J. Davis, M. Miller and R. Newberry.** Washington Univ. Sch. of Med. and Washington Univ. Sch. of Med. in St. Louis. (118.11)
- 9:00 MicroRNA-10a regulates intestinal mucosal dendritic cell development and function by targeting CD11c. **X. Huang, F. Chen, X. Xue, L. Chen, W. Yang, L. Xu, A. Bilotta, S. Yao and Y. Cong.** Univ. of Texas Med. Br., Galveston. (118.13)
- 9:15 A novel function of ADP-ribosyl cyclases to regulate the length of the small intestine revealed in CD38/CD157 double knockout mice. **K. Ishihara, A. Yahagi and M. Iseki.** Kawasaki Med. Sch., Japan. (118.14)
- 9:30 Erythroid suppressor cells promote feto-maternal tolerance through arginase-2 and PDL-1. **S. Elahi, C. Delyea, N. Bozorgmehr, G. Dunsmore, S. Shahbaz and V. Huang.** Univ. of Alberta, Canada, and Univ. of Toronto, Canada. (118.7)
- ### 134. TECHNOLOGICAL INNOVATIONS I
- #### Block Symposium
- MON. 8:00 AM—ROOM 18CD
- CHAIRS: Y. Sykulev, L.J. Stern
- 8:00 Biologically Inspired, iterative engineering of a Human Lymphoid Follicle Chip. **G. Goyal, J. Long, O. Levy and D. Ingber.** Wyss Inst, for Biologically Inspired Engin., Harvard Univ. (120.34)
- 8:15 Intracellular pairing of TCR α and TCR β mRNA at the single-cell level using DNA Origami. **P. Ulrich, L. Schoettle, K. Anderson and J. Blattman.** Arizona State Univ., Ctr. for Personalized Diagnostics and The Biodesign Inst., Ctr. for Immunotherapy, Vaccines and Virotherapy. (120.10)
- 8:30 Sample multiplexing of peripheral immune populations for high throughput single-cell RNA-sequencing. **N. Bansal, C. Chang, Y. Liang, E. Shum, J. Martin, J. Ghadiali, D. Jensen, J. Hu, D. Rosenfeld, Y. Zheng and H. Fan.** BD Biosciences and Salk Inst. (120.11)
- 8:45 Novel strategies to assess the synaptic interface of primary human T cells from peripheral blood and lymphoid tissue. **M. Steblyanko, N. Anikeeva, M. Buggert, M. Betts and Y. Sykulev.** Thomas Jefferson Univ., Univ. of Pennsylvania and Karolinska Univ. Hosp., Sweden. (120.12)
- 9:00 Autofluorescence Imaging of T cell Activation. **A. Walsh, K. Mueller, I. Jones, T. Heaster, K. Saha and M. Skala.** Morgridge Inst. for Res., Wisconsin Inst. for Discovery, and Univ. of Wisconsin, Madison. (120.13)
- 9:15 Bioengineered organoid models of human germinal centers. **N. Quizon, K. Kwak, S. Shah, A. Singh and S. Pierce.** NIAID, NIH and Cornell Univ. (120.14)
- 9:30 High-throughput single-cell linking of antigen specificities with T cell receptor sequences using de novo generated DNA-linked MHC tetramers. **N. Jiang.** Univ. of Texas, Austin. (120.23)
- 9:45 Rapid Specificity Determination and FACS Selection of Plasma Cells for Single Cell Antibody Cloning. **K. McBride, Y. Mu, M. Zelazowska, Q. Dong, L. Krug and J. Plummer.** The Univ. of Texas MD Anderson Cancer Ctr. and Stony Brook Univ. (120.28)
- ### 135. MICROBIOME, DIET, AND METABOLISM AT THE CROSSROADS OF AUTOIMMUNE THERAPEUTICS
- #### Block Symposium
- MON. 8:00 AM—ROOM 17AB
- CHAIRS: A. Mangalam, D. Pascual
- 8:00 Prevention of systemic autoimmunity by dietary modulation of the gut microbiota. **D. Z. Ruiz, A. El-Beidaq, A. Iniguez, M. Lubrano di Ricco, D. Mubiro, S. Vieira, W. Ruff, J. Sterpka and M. Kriegel.** Yale Sch. of Med., Yale Univ., Univ. of California, Los Angeles and Centre d'Immunologie et des Maladies Infectieuses, France. (54.1)
- 8:15 Human gut commensal *Prevotella histicola* ameliorates disease as efficiently as Copaxone and Interferon- β in a preclinical animal model of multiple sclerosis. **S. Shahi, S. Freedman, K. Gibson-Corley, N. Karandikar, J. Murray and A. Mangalam.** Univ. of Iowa and Mayo Clin. (54.2)
- 8:30 Fumaric acid esters hypermethylate the miR21 locus and prevent the formation of CCR6+ CD4 T cells in multiple sclerosis. **A. Ntranos, V. Ntranos, V. Bonnefil, J. Liu, Y. Zhu, C. Watson, I. Katz-Sand and P. Casaccia.** Icahn Sch. of Med., Mount Sinai, Univ. of California, Berkeley, ASRC and Univ. of Louisville. (54.4)
- 8:45 The Effect of Helminth-Induced Immunomodulatory Therapy (HINT) in Relapsing Remitting Multiple Sclerosis. **G. Hernandez, C. Ganansky, M. Sandor, J. Fleming and Z. Fabry.** Univ. of Wisconsin, Madison. (54.5)
- 9:00 D-Mannose suppresses inflammatory diseases by induction of regulatory T cells. **D. Zhang, P. Zanvit, J. Xu, W. Jin and W. Chen.** NIDCR, NIH. (54.6)
- 9:15 Oral Therapy with Colonization Factor Antigen I (CFA/I) Activates Stable Regulatory T Cells (Tregs) in the Pancreatic Lymph Nodes (PaLNs) of Non-Obese Diabetic (NOD) Mice. **A. Nelson, M. Maddaloni, C. Hoffman, J. Abbott and D. Pascual.** Univ. of Florida. (54.7)
- 9:30 Dietary Early Glycation Products Protect Type 1 Diabetic Mice against Hyperglycemia through Altering Immune Homeostasis. **Y. Chen, T. Guo.** Univ. of Georgia. (54.8)
- 9:45 Isoprenol-Induced Neuroprotection in Experimental Multiple Sclerosis. **J. Ochoa-Reparaz, K. Strawn, T. Kirby, M. Brown, D. Walters, K. Gibson and J-B. Rouillet.** Eastern Washington Univ. and Washington State Univ. (54.3)

136. NIH GRANT REVIEW AND FUNDING INFORMATION ROOM

Career Development Session

MON. 9:30 AM—ROOM 14

NIH program and review staff will be available for individual conversations and consultations according to the schedule below. Staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

9:30 AM—10:30 AM

M. Humble. NIEHS

B. Hayden. CSR

10:30 AM—11:30 AM

M. Humble. NIEHS

B. Hayden. CSR

137. GERMAN SOCIETY FOR IMMUNOLOGY (DGFI) SYMPOSIUM: IMMUNE REGULATION BY DENDRITIC CELLS

Guest Society Symposium

MON. 10:15 AM—ROOM 12AB

CHAIRS: D. Dudziak, B. Clausen

- 10:15 The German Society of Immunology. **M. Lohoff.** Univ. of Marburg.
- 10:35 Molecules for development and homing of dendritic cells. **M. Zenke.** RWTH Aachen Univ. Med. Sch. and Inst. for Biomed. Engin.
- 10:55 Develop. and plasticity of plasmacytoid dendritic cells. **A. Krug.** Ludwig-Maximilians-Univ. Munich Inst. for Immunology.
- 11:15 Dendritic cells drive psoriatic skin disease in mice. **B. Clausen.** Univ. Med. Ctr. of the Johannes Gutenberg Univ. Inst. for Molec. Med.
- 11:35 Human lymphoid organ dendritic cell identity. **D. Dudziak.** Univ. Hosp. Erlangen.
- 11:55 Single cell technologies to decipher the human myeloid cell atlas. **J. Schultze.** Univ. of Bonn.

138. THE SOCIETY FOR LEUKOCYTE BIOLOGY (SLB) SYMPOSIUM: EARLY CAREER INVESTIGATORS: TISSUE PHAGOCYTE HETEROGENEITY IN HEALTH AND DISEASE

Guest Society Symposium

MON. 10:15 AM—ROOM 18CD

CHAIRS: R.A. Clark, L. Schlesinger

- 10:15 Intravital analysis of tumor-immune engagement during pulmonary metastasis. **M. Headley.** Univ. of California, San Francisco.
- 10:45 Hepatic myeloid cell diversity during fibrosis and non-alcoholic steatohepatitis. **T. Troutman.** Univ. of California, San Diego.
- 11:15 Biophysical regulation of macrophage phenotype during wound healing. **W. Liu.** Univ. of California, Irvine.

- 11:45 Divergent macrophage control of early viral replication between infants/toddlers and adults during influenza infection contributes to enhanced morbidity in the young. **D. Verhoeven.** Iowa State Univ.

139. SOCIETY FOR MUCOSAL IMMUNOLOGY (SMI) SYMPOSIUM: IMMUNE MODULATION AT MUCOSAL BARRIERS

Guest Society Symposium

MON. 10:15 AM—ROOM 18AB

CHAIRS: L.A. Zelenewicz, N. Kamada

- 10:15 The mouth-gut axis: the influence of oral pathobionts on gastrointestinal disease. **N. Kamada.** Univ. of Michigan.
- 10:45 Nutritional immunity in the inflamed gut. **M. Raffatellu.** Univ. of California, San Diego.
- 11:15 Tissue-specific immunity at the oral mucosal barrier. **N. Moutsopoulos.** NIDCR, NIH.
- 11:45 Regulation of mucosal immunity by IL-17R signaling. **J. Kolls.** Tulane Univ.

140. INTERNATIONAL OPPORTUNITIES IN SCIENCE

Career Development Session

MON. 10:15 AM—ROOM 10AB

CHAIR: H-M. Jack

Working as a scientist outside of the U.S. requires curiosity, adaptability, and open-mindedness, which are valuable qualities important for success in any career. Given the international reach of science, this new session will help immunologists learn about opportunities to gain professional experience beyond the U.S. This panel features scientists employed at academic or research institutions around the globe. Panelists will discuss the postdoctoral fellowship and grant application process; the benefits of international training and employment; the challenges in finding science-related jobs outside of the U.S.; and the process of moving your lab to another country. This session is open to anyone.

Panelists:

- **A. Hosmalin.** Inst. Cochin, France
- **C.J. Paige.** Princess Margaret Cancer Ctr., Canada
- **B. Sun.** Chinese Academy of Sci., China
- **W.F. Pickl.** Med. Univ. of Vienna, Austria

141. BASIC AUTOIMMUNITY: INNATE IMMUNE MECHANISMS

Block Symposium

MON. 10:15 AM—ROOM 19AB

CHAIRS: E.M. Shevach, A-M. Fairhurst

- 10:15 Depletion of islet resident macrophages protects mice from type 1 diabetes. **J. Carrero, D. McCarthy, S Ferris, X. Wan, H. Hu, B. Zinselmeyer, A. Vomund and E. Unanue.** Washington Univ. in St. Louis and Washington Univ. Sch. of Med. in St. Louis. (41.13)

MONDAY—AM

- 10:30 The macrophages in the pancreatic islets are activated and sense pathogen associated products in blood. **P. Zakharov, S. Ferris, X. Wan, E. Unanue, B. Zinselmeyer and J. Carrero.** Washington Univ. in St. Louis. (41.5)
- 10:45 Allograft inflammatory factor-1 expression in dendritic cells directs type 1 diabetes development in the NOD mouse model. **D. Elizondo, T. Andargie, N. Haddock, T. Boddie, D. Yang and M. Lipscomb.** Howard Univ. (41.6)
- 11:00 BCAP promotes Lupus-like disease and regulates IFN α production in pDC. **T. Chu, H. Waterman, G. Gessay and J. Hamerman.** Univ. of Washington and Benaroya Res. Inst. (41.11)
- 11:15 An upregulation of TLR7 in renal dendritic cells is associated with glomerulonephritis across multiple B6.*Sle1*-associated strains. **A-M. Fairhurst.** Agency for Sci. and Technol. and Res., Singapore. (41.2)
- 11:30 N-Glycanase 1 Deficiency Triggers Innate Immune Activation Through Dysregulated Mitophagy. **K. Yang and N. Yan.** Univ. of Texas Southwestern Med. Ctr. (41.12)
- 11:45 Regulation of Myeloid Derived Suppressor Cell (MDSC) dynamics by T regulatory cells. **S. Tanwar and E. Shevach.** NIAID, NIH. (41.1)
- 12:00 Hemopexin deficiency prevents joint injury following collagen antibody-induced arthritis. **S. Baig, Y. Du, Q. Ling, L. Paglicawan, K. Vanarsa and C. Mohan.** Univ. of Houston. (41.9)
- 11:15 Themis integrates signalling from self pMHC and cytokines in mature CD8+ T cells. **N. Gascoigne, X. Zhao, M. Mehta, N. Gautam and J. Brzostek.** Natl. Univ. of Singapore, Singapore. (116.18)
- 11:30 Memory CD8+ T Cell Development is Controlled by the Sympathetic Nervous Syst. **J. Farrar, L. Estrada, D. Agac, A. Wise, R. Maples, B. Chen and M.C. Cobanoglu.** Univ. of Texas Southwestern Med. Ctr., St. Jude Children's Res. Hosp., Illumina and Univ. of Texas Southwestern Med. Ctr. (116.15)
- 11:45 SMAD4 impedes the conversion of NK cells into ILC1-like cells by curtailing non-canonical TGF- β signaling. **V. Cortez, T. Ulland, L. Cervantes-Barragan, J. Bando, M. Robinette, Q. Wang, A. White, S. Gilfillan, M.a Cella and M. Colonna.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis. (116.16)
- 12:00 Kinetics of the liver resident NK cell compartment. **G. Dodard, T. Erick, A. Tata and L. Brossay.** Brown Univ. (116.17)

142. PERIPHERAL LYMPHOCYTE DEVELOPMENT AND HOMEOSTASIS

Block Symposium

MON. 10:15 AM—ROOM 16AB

CHAIRS: L. Brossay, D. Campbell

- 10:15 TCF/LEF family transcription factors in peripheral Treg homeostasis. **W. Fu, B-H. Yang and X. Yuan, Y. Dong.** Univ. of California, San Diego. (116.11)
- 10:30 Identification of age-related changes in gene expression and chromatin accessibility in T cells from thymus to periphery. **A. Achour, G. Chen, A. Sharov, T. Nugyen, W. Peng, M. Patrick, W. III Wood, S. De, K. Becker and N-p. Weng.** NIA, NIH and George Washington Univ. (116.12)
- 10:45 Id3 expression defines anatomically and functionally distinct regulatory T cells. **J. Sullivan, B. Hoellbacher and D. Campbell.** Benaroya Res. Inst. and Univ. of Washington. (116.13)
- 11:00 The TCR/ITK signaling pathway regulates the counterbalance of effector and regulatory T cell development. **W. Huang and A. August.** Cornell Univ. (116.14)

143. AAI VANGUARD LECTURE

Committee-Sponsored Session

Sponsored by the AAI Minority Affairs Committee

MON. 11:15 AM—ROOM 17AB

CHAIR: R.J. Binder

Since 2003, the AAI meeting has featured a scientific lecture presented by an AAI member who is an underrepresented minority investigator noted for scientific achievement and exemplary career success.

- 11:15 The art of coexistence: immune adaptations during chronic viral infections. **E. Zúñiga.** Univ. of California, San Diego


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MONDAY AFTERNOON

MAY 7

144. AAI PRESIDENT'S SYMPOSIUM AND PRESENTATION OF EXCELLENCE IN MENTORING AWARD

President's Program

MON. 12:30 PM—BALLROOM D

CHAIR: W.M. Yokoyama

PRESENTATION OF EXCELLENCE IN MENTORING AWARD

12:30 Introduction. **W.M. Yokoyama**, Washington Univ. Sch. of Med. in St. Louis, AAI President; **S.J. McSorley**, Univ. of California, Davis, and **M. Pepper**, Univ. of Washington.

Recipient: **M.K. Jenkins**. Univ. of Minnesota.

PRESIDENT'S SYMPOSIUM: INTO THE LIMELIGHT: NATURAL KILLER AND INNATE LYMPHOID CELLS

- 12:50 NK cell activation and inactivation in the tumor microenvironment. **D. Raulet**. Univ. of California, Berkeley.
- 1:15 NK cells in the oncology clinic. **K. Hsu**. Mem. Sloan Kettering Cancer Ctr.
- 1:40 Teasing apart transcriptional regulation in innate lymphoid cells. **G. Belz**. Walter and Eliza Hall Inst. of Med. Res.
- 2:05 Innate lymphoid cell plasticity. **M. Colonna**. Washington Univ. Sch. of Med. in St. Louis.

145. NIH GRANT REVIEW AND FUNDING INFORMATION ROOM

Career Development Session

MON. 12:30 PM—ROOM 14

NIH program and review staff will be available for individual conversations and consultations according to the schedule below. Staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

12:30 PM—1:30 PM

R. Agarwal. ORWH
A. Deckhut Augustine. NIAID
S. Ferguson. NIAID

1:30 PM—2:30 PM

D. Hodge. CSR
T. McIntyre. CSR
R. Fuldner. NIA
J. Liu. NIAID

2:30 PM—3:30 PM

D. Hodge. CSR
R. Fuldner. NIA
J. Liu. NIAID

3:30 PM—4:30 PM

M. Humble. NIEHS
M. Mancini. NIAMS
R. Agarwal. ORWH
S.Y. Mao. NIAMS

4:30 PM—5:30 PM

M. Humble. NIEHS
S. Ferguson. NIAID

146. ANTIGEN PROCESSING AND PRESENTATION

Block Symposium

MON. 12:30 PM—ROOM 19AB

CHAIRS: N. Shastri, H. Turnquist

- 12:30 Identification of a gamma IFN inducible lysosomal thiol reductase (GILT)-dependent MHC-II associated epitope that induces T cell responses in GILT^{-/-} mice. **X. He, E. Reyes-Vargas, D. Hu, X. Wang and P. Jensen**. Univ. of Utah Sch. of Med. (99.3)
- 12:45 Investigating a role for the MHC class II accessory molecule HLA-DO in autoimmune disease. **R. Welsh, N. Song, T. Boronina, R. Cole, C. Foss and S. Sadegh-Nasseri**. Johns Hopkins Univ. and Johns Hopkins Univ. Sch. of Med. (99.5)
- 1:00 Self-reactive T cells restricted by non-classical MHC Ib are associated with metabolic disease. **C. Park, J. Guan, T. Ding, F. Gonzalez and N. Shastri**. Univ. of California, Berkeley and Peking Univ. Hlth. Sci. Ctr., China. (99.6)
- 1:15 What have we learned about the dynamics of peptide loading from structures of TAP binding protein, related (TAPBPR)? **D. Margulies, J. Jiang and K. Natarajan**. NIAID, NIH. (99.10)
- 1:30 Investigating the MHC class-II processing and presentation "network" via high-throughput small molecule screening. **E. Wold, D. Schultz, S. Cherry and L. Eisenlohr**. Children's Hosp. of Philadelphia and Perelman Sch. of Med., Univ. of Pennsylvania. (99.21)
- 1:45 Subversion of antigen presentation by Adenoviruses. **M. Bouvier, L. Li and H. Deng**. Univ. of Illinois, Chicago. (99.26)
- 2:00 Elucidating the role of HLA-DO/H2-O in modulating the diversity of the MHC Class II self peptide repertoire. **P. Nanaware, M. Jurewicz, J. Leszyk, S. Shaffer and L. Stern**. Univ. of Massachusetts Med. Sch. (99.1)

MONDAY—PM

2:15 Extraction and intracellular trafficking of membrane associated antigen distinguishes human germinal center B cells from naïve B cells and memory B cells. **K. Kwak, A. Saniee, N. Quizon, H. Sohn and S. Pierce.** NIAID, NIH. (99.25)

147. LEUKOCYTE ADHESION AND MIGRATION

Block Symposium

MON. 12:30 PM—ROOM 18AB

CHAIRS: L. Shapiro, J. Jacobelli

- 12:30 Downregulation of allograft inflammatory factor-1 prevents B cell infiltration to cardiac tissue during the development of diabetic cardiomyopathy (DCM). **A. Sarkar, S. Shukla and K. Rafiq.** Thomas Jefferson Univ. (102.14)
- 12:45 CD11c+ cells are required for lymphocyte trafficking into previously infiltrated pancreatic islets during type 1 diabetes. **A. Sandor, R. Lindsay, M. Gebbert, B. Bradley, K. Haskins, J. Jacobelli and R. Friedman.** Natl. Jewish Hlth. and Univ. of Colorado Sch. of Med. (102.15)
- 1:00 Gut pathobiont translocation induces lymphocyte migration to internal organs in autoimmunity. **R. Fine, S. M. Vieira, D. Z. Ruiz and M. Kriegel.** Yale Sch. of Med. (102.16)
- 1:15 Novel in vitro model of Rich focus formation and mycobacterium infected cell migration at the blood brain barrier. **F. Walter, T. Gilpin, A. Mergaert, M. Sandor and Z. Fabry.** Univ. of Wisconsin, Madison. (102.17)
- 1:30 CD8 T cells are recruited to the central nervous system after peripheral infections and adopt a tissue resident memory phenotype. **S. Urban, L. Pewe and J. Harty.** Univ. of Iowa Carver Col. of Med. (102.18)
- 1:45 FMNL1 promotes T cell extravasation and trafficking to sites of inflammation. **S. Thompson, R. Long, J. Chung, M. Estin and J. Jacobelli.** Natl. Jewish Hlth. and Univ. of Colorado Sch. of Med. (102.19)
- 2:00 Regulation of beta1 Integrin Recycling, Cell Migration and Focal Adhesion Turnover by Cell Adhesion molecule- CD13. **M. Ghosh, R. Lo, C. Devarakonda, B. Aguilera, I. Ivic and L. Shapiro.** Univ. of Connecticut Hlth. Ctr. (102.20)
- 2:15 Histone Demethylase Jmjd3 Controls T-Cell Trafficking and Persistence by Interacting with Klf2 for Expression of Pdlim4. **C. Fu, Q. Li, J. Zou, C. Xing, M. Zhu, P. Tan, M. Lin and R. Wang.** Ctr. for Inflammation and Epigenetics, Houston Methodist Res. Inst., Texas A&M Univ. Hlth. Sci. Ctr., Baylor Col. of Med., Dartmouth Geisel Sch. of Med., Ctr. for Inflammation and Epigenetics, and Houston Methodist Res. Inst. (102.21)

148. FOOD ALLERGY AND HYPERSENSITIVITY

Block Symposium

MON. 12:30 PM—ROOM 16AB

CHAIRS: P. Boyaka, J.M. Cook-Mills

- 12:30 Maternal Lipid Regulation of the Develop. of Responsiveness to Allergen in Neonates and Infants. **J. Cook-Mills and M. Walker.** Northwestern Univ. (104.12)
- 12:45 Engineered ovalbumin-expressing regulatory T cells protect from chicken egg white-induced allergy in vivo. **M. Abdeladhim, A. Zhang, L. Kropp, Y.C. Kim, E. Mitre and D. Scott.** Uniformed Serv. Univ. of Hlth. Sci. (104.13)
- 1:00 Altered TGF β signaling in non-hematopoietic cells leads to eosinophilic esophagitis. **K. Laky, J. Kinard, A. Guerrero and P. Frischmeyer-Guerrero.** NIAID, NIH and Johns Hopkins Univ. Sch. of Med. (104.11)
- 1:15 Saturated fat-induced food allergy: a paradigm for unfolded protein response (UPR)-mediated allergic inflammation. **U. K. Samavedam, S. Morris, M. Khodoun, D. Wu, C. Potter, S. Hogan and F.Finkelman.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med. (104.14)
- 1:30 Paneth cells regulate allergic sensitization in the gastrointestinal tract. **E. Kim, D. Burnett, A. Rudinsky, Y. Mori-Akiyama, E. Cornet-Boyaka and P. Boyaka.** Ohio State Univ. Col. of Vet. Med. and Baylor Col. of Med. (104.15)
- 1:45 A disintegrin and metalloproteinase 17 is required for IL-33 induced ILC2 expansion and cytokine production. **J. Lownik, R. Martin and D. Conrad.** Virginia Commonwealth Univ. Sch. of Med. (104.7)
- 2:00 Forward genetic screen of allergy reveals genetic basis for allergic disease. **J. SoRelle, Z. Chen, J. Wang, M. Tang, X. Li and B. Beutler.** Univ. of Texas Southwestern Med. Ctr. and GlaxoSmithKline. (104.8)
- 2:15 Transcription factor signal transducer and activator of transcription 3 (STAT-3) serves as a negative regulator controlling IgE class switching. **P. Dascani, C. Ding, X. Kong and J. Yan.** Univ. of Louisville and Zhejiang Univ. Sch. of Med., China. (104.16)

149. MAST CELL BIOLOGY

Block Symposium

MON. 12:30 PM—ROOM 12AB

CHAIRS: P.J. Bryce, M.H. Kaplan

- 12:30 Identification of an *Ilg9* gene locus regulatory element in mast cells and basophils. **A.A. Qayum and B. Koh, M. Kaplan.** Indiana Univ. Sch. of Med. (105.3)
- 12:45 Lipoxin A4 restrains mast cell function and inhibits type 2 mediated cutaneous inflammation. **H. Baxendell, A. Haduch, J. Alwine, N. Naumov, L. Faló and T. Sumpter.** Univ. of Pittsburgh and Univ. of Pittsburgh Sch. of Med. (105.4)

- 1:00 Mast cell corticotropin releasing factor receptor CRF₂ regulates mast cell function in response to psychological and immunological stress. **A. Moeser, S. D'Costa, S. Ayyadurai, E. Mackey and N. Wilson.** Michigan State Univ. and North Carolina State Univ. (105.5)
- 1:15 Mast cell-driven clearance in *N. brasiliensis* is masked by IL-25-dependent B1 cell IgE. **R. Martin, Y. Valentine, E. Davis, J. Lownik, A. Luker, M. Zellner, J. Urban, F. Finkelman and D. Conrad.** Virginia Commonwealth Univ. Sch. of Med., USDA and Univ. of Cincinnati Col. of Med. (105.6)
- 1:30 Characterization of the phenotype of the connective tissue mast cell knockout Mcpt5Cre⁺;Rosa(DTA) mice in the lung. **J. Cohen.** Brigham and Women's Hosp. (105.7)
- 1:45 Selective Serotonin Reuptake Inhibitors Suppress Mast Cell Function. **T. Haque, J. Ryan.** Virginia Commonwealth Univ. Sch. of Med. (105.8)
- 2:00 The sins of first exposure: simultaneous allergen- and influenza-mediated signaling results in mast cell hyperactivity. **R. Temple, J. Obar.** Dartmouth Geisel Sch. of Med. (105.9)
- 2:15 STIM1 contributes to mast cell functional response via MrgprX2. **C. Occhiuto, A. Kammala and H. Subramanian.** Michigan State Univ. (105.10)
- 150. VETERINARY AND COMPARATIVE IMMUNOLOGY**
- Block Symposium**
- MON. 12:30 PM—ROOM 18CD
- CHAIRS: M. Criscitiello, J.C. Telfer
- 12:30 Evolutionary modification of the VLR-based adaptive immune system in jawless vertebrates: functional implications. **S. Das, J. Li, M. Hirano, J. Rast and M. Cooper.** Emory Univ. Sch. of Med. (59.2)
- 12:45 Somatic hypermutation of TCR α contributes to thymic positive selection in sharks. **J. Ott, C. Castro, T. Deiss, Y. Ota, M. Flajnik and M. Criscitiello.** Texas A&M Col. of Vet. Med., Univ. of Maryland Sch. of Med., Univ. of Chicago and Texas A&M Univ. (59.8)
- 1:00 The fish adaptive immune response and its suppression by helminths. **N. Steinel and D. Bolnick.** Univ. of Texas, Austin. (59.5)
- 1:15 Association between bovine viral diarrhea virus load in subsets of peripheral blood mononuclear cells (PBMC) in persistently infected animals and health outcome. **S. Falkenberg, R. Dassanayake, P. Walz, J. Neill and J. Ridpath.** USDA-ARS Natl. Animal Dis. Ctr. and Col. of Vet. Med., Auburn Univ. (59.25)
- 1:30 β -glucan induced training and tolerance: alterations to primary monocytes. **K. Byrne, H. Beiki, C. Tuggle and C. Loving.** USDA-ARS Natl. Animal Dis. Ctr. and Iowa State Univ. (59.17)
- 1:45 Minipigs as neonatal animal model for tuberculosis vaccine efficacy testing. **M. Gonzalez Juarrero, L. Ramos, A. Obregon-Henao, M. Henao-Tamayo, R. Bowen, A. Izzo and J. Lunney.** Colorado State Univ. and USDAARS. (59.12)
- 2:00 Classification the WC1 gene family in *Sus scrofa* and evaluation of individual SRCR domain affinity for *Mycobacterium bovis* and *Leptospira spp.* **L. L. Page, J. Buck, N. Boisvert, A. Gillespie, E. Hudgens, H. Hsu, C. Baldwin and J. Telfer.** Univ. of Massachusetts Amherst and Univ. of Maryland Sch. of Med. (59.18)
- 2:15 The prevalent Boxer MHC class Ia allele Dog Leukocyte Antigen (DLA)-88*034:01 presents 9-mer peptides with a defined binding motif. **P. Hess, P. Nemeec, A. Kapatoss and J. Holmes.** North Carolina State Univ. (59.27)
- 151. CANADIAN SOCIETY FOR IMMUNOLOGY (CSI) SYMPOSIUM: INNATE LYMPHOID CELLS AND INFLAMMATORY DISEASES**
- Guest Society Symposium**
- MON. 3:45 PM—ROOM 10AB
- CHAIRS: K. McNagny, A. Mortha
- 3:45 Innate lymphoid cells regulate CD8 T cell immunity. **P. Ohashi.** Princess Margaret Cancer Ctr.
- 4:09 Molecular regulation of group 2 innate lymphoid cell functions. **J. Fritz.** McGill Univ.
- 4:33 Adaptive immune control of ILC3 functions. **A. Mortha.** Univ. of Toronto.
- 4:57 Heterogeneity of mouse lung ILC2. **F. Takei.** Univ. of British Columbia.
- 5:21 Role of innate lymphoid cells in fibrotic disease. **K. McNagny.** Univ. of British Columbia.
- 152. BASIC AUTOIMMUNITY: B CELLS AND GERMINAL CENTERS**
- Block Symposium**
- MON. 3:45 PM—ROOM 17AB
- CHAIRS: G. Kelsoe, J. Mountz
- 3:45 TLR7 and IFN γ signaling converge at STAT1 in B cells to control germinal center mediated autoimmunity. **S. B. Chodisetti, P. Domeier, N. Choi and Z. Rahman.** Pennsylvania State Univ. Col. of Med. (40.5)
- 4:00 Programmed death-1 restrains the germinal center reaction in type 1 diabetes. **T. Martinov, J. Spanier, L. Swanson and B. Fife.** Univ. of Minnesota. (40.15)
- 4:15 Ikaros regulates B-cell tolerance. **H. Schjerven, P. Rodriguez, D. Hagen, M. Rasmussen, E. Ayongaba and S. Frieze.** Univ. of California, San Francisco, Oslo Univ. Hosp., Norway, Univ. of Vermont and Univ. of Oslo, Norway. (40.14)
- 4:30 Single cell analysis revealed distinct B-cell subpopulations that produce or respond to type I interferon in SLE. **J. Hamilton, Q. Wu, P. Yang, B. Luo, S. Liu, J. Li, H. Hong, A. Mattheyseys, W. Chatham, H-C. Hsu and J. Mountz.** Univ. of Alabama, Birmingham. (40.12)

MONDAY—PM

- 4:45 Tracing self-reactive B cells in normal mice. **M. Kuraoka, T. Nojima, A. Reynolds, D. Kitamura and G. Kelsoe.** Duke Univ., Tokyo Univ. of Sci., Japan and Duke Univ. Med. Ctr. (40.13)
- 5:00 Loss of B cell Ezrin in lupus-prone Lyn-deficient mice downregulates B cell activation and autoimmune pathology. **N.Gupta, D. Pore, N. Parameswaran, E. Huang and D. Dejanovic.** Cleveland Clin. (40.7)
- 5:15 Anti-insulin B cells are poised for antigen-presentation in pro-inflammatory subsets in type 1 diabetes. **J. Felton, R. Bonami, C. Hulbert and J. Thomas.** Vanderbilt Univ. Med. Ctr. (40.16)
- 5:30 A novel mechanism for IL-23 to up-regulate AICDA and promote pathogenic autoantibodies in lupus. **H. Hong, Q.Wu, P. Yang, B. Lou, J. Li, H.Li, D. Cua, H-C. Hsu and J. Mountz.** Univ. of Alabama, Birmingham, Harvard Univ. and Merck Res. Labs. (40.1)
- 4:30 Hypoxia-induced reactive oxygen species contribute to immune checkpoint molecule expression in T cells undergoing rapid clonal proliferation. **R. OConnor, L. Guo, S. Ghassemi, N. Snyder, A. Worth, L. Weng, S. OBrien, Y. Kam, B. Philipson, S. Nunez-Cruz, J. Lee, K. Wellen, T. Busch, E. Moon, I. Blair, C. June and M. Milone.** Univ. of Pennsylvania, Drexel Univ. and Agilent Technologies. (108.18)
- 4:45 Tumour-elicited neutrophils engage mitochondrial metabolism to circumvent nutrient limitations and maintain immune inhibition. **C. Rice, L. Davies, J. Subleski, N. Maio, C. Andrews, M. Gonzalez Cotto, J-m. Lee, C. Annunziata, T.Rouault, S. Durum and D. McVicar.** NCI, NIH, DII/Cardiff Univ., United Kingdom and NICHD, NIH. (108.19)
- 5:00 Self-reactivity controls the basal metabolism and in vivo function of CD4 T cells. **A. Milam, J. Bartleson, D. Donermeyer, S. Horvath, C-H. Chang, M. Buck, W. Lam, V. Durai, S. Raju, H.g Yu, B. Zinselmeyer, K. Murphy, E. Pearce and P. Allen.** Washington Univ. in St. Louis, Jackson Lab., Max Planck Inst. for Immunobiology and Epigenetics, Germany, Washington Univ. Sch. of Med. in St. Louis and Ludwig Inst. for Cancer Res. (108.23)
- 5:15 Changes in metabolic phenotype and cellular ATP production during CD4+ T cell activation. **N. Romero, P. Swain, Y. Kam and B. Dranka.** Agilent Technologies. (108.14)
- 5:30 CD5 expression influences T cell metabolism and mice behavior. **C. Freitas, T. Cox, D. Johnson and K.S. Weber.** Brigham Young Univ. (108.16)

153. METABOLOME, HOST DEFENSE, AND TISSUE INJURY

Block Symposium

MON. 3:45 PM—ROOM 12AB

CHAIRS: S. Hamilton, R. O'Connor

- 3:45 The Mechanosensitive Ion Channel, Transient Receptor Potential Vanilloid 4 (TRPV4) in Macrophages Regulates the Host Def. Response to Bacterial Pneumonia. **R. Scheraga, S. Abraham, L. Grove, B. Southern, J. Crish, T. Lumpkin, T. Hamilton, C. McDonald and M.I Olman.** Cleveland Clin. Fndn. (108.8)
- 4:00 Physiological microbial exposure has the capacity to substantially influence inflammatory responses in vivo. **F. Sjaastad, M. Pierson, M. Huggins, D. Danahy, V. Badovinac, T. Griffith and S. Hamilton.** Univ. of Minnesota and Univ. of Iowa. (108.9)
- 4:15 Secondary damage or viral infection following mild traumatic brain injury impedes tissue repair induced by distinct myeloid cell subsets. **M. Russo and D. McGavern.** NINDS, NIH. (108.10)
- ## 154. MOLECULAR MECHANISMS OF T HELPER CELL DIFFERENTIATION AND RESPONSES
- ### Block Symposium
- MON. 3:45 PM—ROOM 18CD
- CHAIRS: A. Ballesteros-Tato, Z. Sun
- 3:45 Separation of ROR γ function in Thymocyte development and Th17 differentiation. **Z. Sun and Z. He, J. Ma.** Beckman Res. Inst., City of Hope. (110.1)
- 4:00 TRAF6-TAK1 signaling drives Th9 differentiation. **S. A Park, H. Nakatsukasa and W. Chen.** NIDCR, NIH. (110.4)



- 4:15 T-cell intrinsic RIP2 regulates pathogenic Th17 differentiation in chronic lung and vascular inflammation. **R. Porritt, K. Shimada, T. Crother, M. N. Rivas, S. Chen and M. Arditì.** Cedars-Sinai Med. Ctr. (110.5)
- 4:30 Bcl6 interacting corepressor contributes to CD4⁺ T helper 17 cell formation by repressing CD27 and Foxo1 signaling. **J. Kotov, M. Gearhart, V. Bardwell and M. Jenkins.** Univ. of Minnesota. (110.7)
- 4:45 Pioneer transcription factor BATF controls chromatin accessibility and CTCF-mediated chromatin architecture in CD4⁺ T cells. **D. Pham, C. Moseley, D. Savic, R. Myers, B. Kee, R. Hatton and C. Weaver.** Univ. of Alabama, Birmingham, St. Jude Children's Res. Hosp., HudsonAlpha Inst. for Biotech. and Univ. of Chicago. (110.10)
- 5:00 BCAP, a novel TLR-IL1R signaling adapter, regulates the differentiation of pathogenic Th17 cells. **K. Deason, T. Troutman, A. Jain and C. Pasare.** Univ. of Texas Southwestern Med. Ctr. and Univ. of California, San Diego. (110.11)
- 5:15 IL-6 counteracts IL-2-dependent suppression of T follicular helper cell responses. **A. Papillion, H. Bachus, M. Fuller, B. León and A. Ballesteros-Tato.** Univ. of Alabama, Birmingham. (110.13)
- 5:30 AP-1 transcription factor remodels chromatin during T cell activation. **A. Barski, M. Yukawa, S. Jagannathan, A. Kartashov, X. Chen and M. Weirauch.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med. (110.16)
- 4:30 ILC2 activation by leukotrienes: NFAT joins the team. **J. von Moltke, C. O'Leary, N. Barrett, Y. Kanaoka, K. F. Austen and R. Locksley.** Univ. of Washington, Univ. of California, San Francisco and Brigham and Women's Hosp. (119.6)
- 4:45 Single-cell RNA-seq identifies the neuropeptide NMU as a novel regulator of ILC2 function. **A. Wallrapp, S. Riesenfeld, P. Burkett, R-E. Abdunour, J. Nyman, D. Dionne, M. Hofree, M. Cuoco, C. Rodman, D. Farouq, B. Haas, T. Tickle, J. Trombetta, P. Baral, C. Klose, T. Mahlaköiv, D. Artis, O. Rozenblatt-Rosen, I. Chiu, B. Levy, M. Kowalczyk, A. Regev and V. Kuchroo.** Brigham and Women's Hosp., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Weill Cornell Med. Col. and Howard Hughes Med. Inst. (119.7)
- 5:00 S1P-dependent Inter-Organ Trafficking of Group 2 Innate Lymphoid Cells Supports Host Def. **Y. Huang, K. Mao, X. Chen, M-A. Sun, T. Kawabe, W. Li, N. Usher, J. Zhu, J. Urban, W. Paul and R. Germain.** NIAID, NIH, NICHD, NIH, Cornell Univ. and USDA. (119.8)

156. NOVEL THERAPEUTIC APPROACHES IN NEURO-INFLAMMATION

Block Symposium

MON. 3:45 PM—ROOM 16AB

CHAIRS: R. Axtell, M. McGeachy

155. ILCS AND IELS: REGULATORS OF MUCOSAL IMMUNITY

Block Symposium

MON. 3:45 PM—ROOM 18AB

CHAIRS: M. Raffatellu, P. Kiela

- 3:45 Surveying the TCR landscape of intestinal intraepithelial lymphocytes. **S. Schattgen, J. Crawford and P. Thomas.** St. Jude Children's Res. Hosp. (119.1)
- 4:00 *Lactobacillus reuteri* induces gut intraepithelial CD4⁺CD8^{αα}⁺ T cells. **L. C. Barragan, J. Chai, M. D. Tianero, B. Di Luccia, P. Ahern, J. Merriman, V. Cortez, M. Caparon, M. Donia, S. Gilfillan, M. Cella, J. Gordon, C. Hsieh and M. Colonna.** Washington Univ. Sch. of Med. in St. Louis, Princeton Univ. and Washington Univ. in St. Louis. (119.2)
- 4:15 A functional androgen-regulated subset lacking KLRG1 contributes to the sex bias in ILC2s. **S. Kadel, E. Ainsua-Enrich, I. Hatipoglu, S. Turner, S. Singh, S. Khan and S. Kovats.** Oklahoma Med. Res. Fndn. and Univ. of Cincinnati Col. of Med. (119.5)
- 3:45 Induction of neuroantigen-specific CD8⁺ T cell responses as a treatment for relapsing autoimmune demyelinating disease. **A. Brate, S. Sinha, F. Itani, L. Pewe, J. Harty and N. Karandikar.** Univ. of Iowa and Univ. of Iowa Carver Col. of Med. (121.1)
- 4:00 Small molecule modulators of prion protein (PrpC) in Dendritic cells regulate inflammatory responses in a model of Multiple Sclerosis. **F. Fallarino, M. Barreca, G. Manni, G. Scalisi, E. Biasini, M. Gargaro and G. Manfroni.** Univ. of Perugia, Italy, Dulbecco Telethon Lab. of Prions & Amyloids, Ctr. for Integrative Biol. and Univ. of Trento, Italy. (121.2)
- 4:15 Anon-redundant role for ROR α in T_H17 cell development and T_H17-driven inflammatory disorders. **L. Solt, R. Wang, M. Amir, S. Chaudhari, S. Campbell, M. Bassette and T. Kamenecka.** Scripps, Florida. (121.3)
- 4:30 Tumor necrosis factor receptor 2 promotes neuroprotection during chronic autoimmune neuroinflammation. **F. Gomez-Rivera, I. Raphael, R. Raphael, R. Robinson, S. Nalawade and T. Forsthuber.** The Univ. of Texas, San Antonio and Univ. of Pittsburgh. (121.4)
- 4:45 STAT3 regulation of effector Th17 cells and its implications for treatment of autoimmunity. **I. Raphael and M. McGeachy.** Univ. of Pittsburgh. (121.5)

MONDAY—PM

- 5:00 B Cell Maturation Antigen impacts the efficacy of B-cell targeting therapies in neuro-inflammation. **G. Kumar, R. Ko and R. Axtell.** Oklahoma Med. Res. Fndn. (121.6)
- 5:15 Selective inhibition of gelatinases mitigates T-cell receptor signaling in CD4+ T-cells resulting in reduced clinical severity in a murine model of Multiple Sclerosis. **L. Onwuha-Ekpete, D. Tokmina-Roszyk and G. Fields.** Florida Atlantic Univ. and Scripps, Florida. (121.7)
- 5:30 Interferon- β -driven inflammatory B cells promote T_H17-mediated neuro-inflammation. **R. Axtell, A. Agasing, J. Quinn, G. Kumar and R. Ko.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr. (121.8)
- 5:15 Recipient conditioning contributes to IL-33-driven Th1 alloimmune responses following rapid ST2 upregulation on donor CD4⁺ T cells during lymphopenia-induced proliferation. **G. Dwyer, L. Mathews, A. Lucas, B. Blazar and H. Turnquist.** Univ. of Pittsburgh Sch. of Med. and Univ. of Minnesota Med. Sch. (55.4)
- 5:30 Bioengineering localized and controlled drug delivery to actuate Enhanced Costimulation Blockade and promote long-term transplant survival. **G. Raimondi, P. Majumder, V. Ivanova, X. Calderon-Colon, A. Mirdad, M. Iglesias Lozano, WP A. Lee, G. Brandacher, J. Schneider and J. Patrone.** Johns Hopkins Univ. Sch. of Med., NCI, NIH and Johns Hopkins Univ. App. Phys. Lab. (55.7)

157. TRANSPLANTATION IMMUNOLOGY

Block Symposium

MON. 3:45 PM—ROOM 19AB

CHAIRS: A. Valujskikh, W.J. Murphy, E. Waller

- 3:45 Delineating tissue-specific alloimmunity during acute GVHD. **V. Tkachev, S. Furlan, E. Potter, B. Zheng, D. Hunt, L. Colonna, A. Taraseviciute, J. Carlson, K. Betz, A. Yu, M. Hoffman, S. Herrin, J. Olvera, C. Littlewood, B. Blazar, M. Roederer and L. Kean.** Seattle Children's Res. Inst., NIAID, NIH, Univ. of Minnesota, Fred Hutchinson Cancer Res.Ctr. and Univ. of Washington. (55.1)
- 4:00 Graft dendritic cell p40 homodimers activate donor-reactive endogenous memory CD8 T cells within higher risk allografts. **R. Fairchild, H. Tsuda and A. Valujskikh.** Cleveland Clin. (55.5)
- 4:15 Distinct IL-6 signaling pathways drive alternate pathogenic T cell differentiation and GVHD after transplant in vivo. **A. Wilkinson, R. Kuns, A. Varelias, S. Vuckovic, S. Rose-John, K. Gartlan and G. Hill.** QIMR Berghofer Med. Res. Inst., Australia and Christian Albrechts Univ. Kiel, Germany. (55.2)
- 4:30 Towards the repair of marginal liver grafts: mesenchymal stromal cell therapy. **A. Bartczak, I. Linares, D. Kollmann, X-H. Zhang, X-Z. Ma, J. Echeverri, S. Ganesh, J. Manuel, M. Selzner, A. Keating and I. McGilvray.** Univeristy Hlth. Network, Canada. (55.6)
- 4:45 Obesity results in marked increases in gut permeability, inflammatory cytokines, and acute gut graft-versus-host disease after allogeneic hematopoietic stem cell transplantation. **L. Khuat, C-C. Pai, C. Le, C. Dunai, M. Chen, H. Raybould, M. Abedi and W. Murphy.** Univ. of California, Davis and Univ. of Texas Southwestern Med. Ctr. (55.3)
- 5:00 The adapter protein TSAAd maintains alloimmune T regulatory cell stability and function. **J. Wedel, M. Stack, T. Seto, M. Sheehan, K. Liu, E. Flynn and D. Briscoe.** Boston Children's Hosp. and Harvard Med. Sch. (55.8)
- 5:45 Nanoemulsion adjuvant augments retinaldehyde dehydrogenase activity in dendritic cells and regulates expression of gut homing receptors on T cells. **M. Farazuddin, R. Goel, J. Landers, N. Kline, N. Toufaily, P. Uppula, J. O'Konek and J. Baker.** Univ. of Michigan Med. Sch. (125.1)
- 4:00 An multivalent vaccine elicits protective Th17 response via activation of C-type lectin receptor- and Card9-mediated signal against pulmonary *Coccidioides posadasii* infection. **C-Y. Hung, H. Zhang, A. Campuzano, G. Ostroff and J.J. Yu.** Univ. of Texas, San Antonio and Univ. of Massachusetts Med. Sch. (125.4)
- 4:15 A Bovine Adenovirus (BAdv) Expressing Mycobacterial Secreted Ag85B and a TLR-2 Stimulating Adjuvant Peptide Induces Robust Antigen Presentation In vitro and Improved Protection against Tuberculosis in Mice. **A. Khan, A. Mani, S-A. Hwang, L. Mann, R. Papanna, J. Won, D. Canaday, R. Hunter, J. Wang, S. Mittal and C. Jagannath.** Univ. of Texas Hlth. Sci. Ctr., Houston, Univ. of Texas Houston, Case Western Reserve Univ., Houston Methodist Res. Inst. and Purdue Univ. (125.5)



- 4:30 Reduced germinal center formation is not sufficient to promote cross-reactive protection against influenza. **Je. Johnson, R. Keating, P. Thomas and M. McGargill.** St. Jude Children's Res. Hosp. (125.11)
- 4:45 Molecular characterization of combination pattern recognition receptor agonist exposure on dendritic cell responses. **D. Brown, A. Lampe, J. Hain and A. Pannier.** Univ. of Nebraska—Lincoln, and Nebraska Wesleyan Univ. (125.13)
- 5:00 CD8⁺ T cells control HSV-1 replication in the nervous system but not the cornea in HSV-1 Δ NLS-vaccinated mice lacking virus-neutralizing antibody. **D. Carr, M. Montgomery and D. Royer.** Univ. of Oklahoma Hlth. Sci. Ctr. (125.19)
- 5:15 Aberrant innate immune activation facilitates EcoHIV evasion from vaccine-induced protection. **L. Liu, J. Peng, H. Tang, H. Kwok, K. Nishiura, Q. Lin, J. Fang and Z. Chen.** The Univ. of Hong Kong, Hong Kong. (125.21)
- 5:30 Differential T follicular helper cell responses induced by candidate HIV vaccine strategies utilizing ALVAC versus Ad5 vectors. **S. Auclair, L. Soong and H. Hu.** Univ. of Texas Med. Br., Galveston. (125.22)

159. AAI-STEINMAN AWARD FOR HUMAN IMMUNOLOGY RESEARCH PRESENTATION AND LECTURE

Awards Lecture

MON. 4:30 PM—BALLROOM D

CHAIR: W.M. Yokoyama

- 4:30 Introduction and Award Presentation. **W.M. Yokoyama.** Washington Univ. Sch. of Med. in St. Louis, AAI President
- 4:35 Cytokine signaling: translational advances, future opportunities and challenges. **J. O'Shea.** NIAMS, NIH.

160. DISTINGUISHED LECTURE RANDOLPH NOELLE

Distinguished Lecture

MON. 6:00 PM—BALLROOM D

CHAIR: E.M. Oltz

- 6:00 A panoramic VISTA of the immune system. **R. Noelle.** Dartmouth Geisel Sch. of Med.

MON

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Saturday, May 5, 2018

2:30 PM – 3:45 PM



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MONDAY POSTER SESSIONS

Posters on Display: 9:30 am – 4:30 pm
 Author Presentation Time: 2:30 pm – 3:45 pm

162. BASIC AUTOIMMUNITY: MICROBIAL CONNECTIONS

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- BA.100 **162.1** Nod2 is a negative regulator of arthritogenic T cell responses in SKG mice. **R. Napier, E. Lee, E. Vance, P. Snow, C. Dawson, P. Stenzel, M. Davey, S. Sakaguchi and H. Rosenzweig.** Oregon Hlth. & Sci. Univ., VA Portland Hlth. Care Syst. and Osaka Univ., Japan.
- BA.101 **162.2** Lupus-suppressing effect of VSV-primed CD8+ T cell subsets. **H. Kole, B. Scott, S. Crampton, G. Sule, J. Deane and S. Bolland.** Lab. of Immunogenetics, and NIAID, NIH.
- BA.102 **162.3** Antibodies that bind to an EBV derived peptide mimic of dsDNA, have pathogenic potential. **L. Spatz, D. Sarbaugh, D. Singh, O. Kryvda and O. Oudit.** The City Col. of New York/CUNY Sch. of Med. and The City Col. of New York.
- BA.103 **162.4** Exposure to the Epstein-Barr viral antigen induces affinity-maturated anti-myelin antibodies. **Y. Lomakin and A. Belogurov.** Shemyakin-Ovchinnikov Inst. of Bioorganic Chem., Russia.
- BA.104 **162.5** Salmonella infection induces autoantibody production in MyD88-deficient host: identification of candidate bacterial proteins with homology to murine antigens. **B. al-Ramadi, J. Issac, Y. Mohamed, G. Bashir, A. Al-Sbiei, W. Conca, T. Khan, A. Iqbal, O. Cabral-Marques and M. Fernandez-Cabezudo.** United Arab Emirates Univ., United Arab Emirates, Kohat Univ. of Sci. and Technol., Pakistan, Univ. of Illinois at Chicago and Univ. of Lübeck, Germany.
- BA.105 **162.6** Bacterial amyloids from biofilms induce type I interferon response in plasmacytoid dendritic cells. **C. Qiu and S. Gallucci.** Temple Univ. Sch. of Med.
- BA.106 **162.7** Bacterial biofilm product Curli/eDNA induces NETs and serum anti-Curli/eDNA levels correlate with bacteriuria and lupus activity. **R. Pachucki, C. Corradetti, S. Tursi, L. Kohler, L. Nicastro, S. Gallucci, L. Kilpatrick, Ç. Tükel and R. Caricchio.** Temple Univ. Sch. of Med.
- BA.107 **162.8** A protective MHC class II molecule prevents autoimmune diabetes by selecting for specific intestinal microbes early in ontogeny. **M. Silverman, L. Denu and J. Lubin.** Children's Hosp. of Philadelphia and Perelman Sch. of Med., Univ. of Pennsylvania.
- BA.108 **162.9** Bacterial amyloids from biofilms break tolerance in lupus by simultaneous BCR/TLR signaling. **M. Lee, S. Tursi, L. Nicastro, R. Caricchio, Ç. Tükel and S. Gallucci.** Temple Univ. Sch. of Med.

- BA.109 **162.10** Spontaneous translocation of a human enterococcal gut pathobiont drives systemic autoimmunity. **S. M. Vieira, M. Hiltensperger, V. Kumar, D. Zegarra-Ruiz, C. Dehner, A. Barbieri, D. Jain, A. Goodman and M. Kriegel.** Yale Sch. of Med.
- BA.110 **162.11** Gut commensal-dependent production of autoantibodies against the primordial lupus autoantigen Ro60 in the absence of mammalian Ro60. **R. Datta, C. Dehner, W. Ruff, T. Greiling and M. Kriegel.** Yale Sch. of Med. and Oregon Hlth. and Sci. Univ.
- BA.111 **162.12** MDA5, a Janus-faced dsRNA sensor in Coxsackievirus-accelerated autoimmune diabetes. **H. Tse, A. Burg and Y. Chen.** Univ. of Alabama, Birmingham and Med. Col. of Wisconsin.
- BA.112 **162.13** A single infection with a malaria parasite protects mice from lethal autoimmune glomerulonephritis. **S. Bolland, H. Kole, B. Scott and L. Amo.** NIAID, NIH.
- BA.113 **162.14** Reduction of autoantibody in SLE by probiotic exopolysaccharide-induced inhibitory dendritic cells. **O. Kalinina and K. Knight.** Loyola Univ. Chicago.

163. BASIC AUTOIMMUNITY: ROLE OF T CELLS

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- BA.114 **163.1** Transcription factor T-bet drives the pathogenesis of T_H17-mediated neuroinflammation. **T. Loo, A. Shinoda and V. Lazarevic.** NCI, NIH
- BA.115 **163.2** Neuroantigen-specific CD8 T cells inhibit ongoing demyelinating disease by autoregulating CD4 T cell responses using temporally distinct IFN γ - and perforin-dependent mechanisms. **A. Boyden, A. Brate and N. Karandikar.** Univ. of Iowa.
- BA.116 **163.3** Autoantibody-inducing CD4 T (aiCD4 T) cell that induces systemic lupus erythematosus (SLE) includes not only follicular helper T cell but also IL-21-producing CXCR5^{hi}ICOS^{hi}PD-1^{hi} cell. **K. Tsumiyama and S. Shiozawa.** Kyushu Univ. Hosp., Japan.
- BA.117 **163.4** Interleukin 27 signaling in T cells is essential for the development of type 1 diabetes. **A. Ciecko, B. Foda, K. Mueller, A. Geurts and Y. Chen.** Med. Col. of Wisconsin.
- BA.118 **163.5** Targeting transcription cofactor OCA-B specifically blocks pancreatic T cell infiltration, cytokine production and elevated glucose in the NOD mouse model of type-1 diabetes (T1D). **D. Tantin and H. Kim.** Univ. of Utah Sch. of Med.

- BA.119 **163.6** Proteomic Analysis Reveals Distinctive Protein Profiles Involved in CD8 T Cell-Mediated Murine Autoimmune Cholangitis. **W. Zhang, R. Zhang, J. Zhang, Y. Sun, P. Leung, G. Yang, Z. Shuai, W. Ridgway and M.E. Gershwin.** Univ. of California, Davis, Guangzhou Univ. of Chinese Med., China, Univ. of Texas, MD Anderson Cancer Ctr., Beijing 302 Hosp., China, The First Affiliated Hosp. of Anhui Med. Univ. and Univ. of Cincinnati
- BA.120 **163.7** Autoreactive and immunization-induced follicular helper T cells have opposite glucose and glutamine requirements. **S. Choi, A. Titov, G. Abboud and L. Morel.** Univ. of Florida.
- BA.121 **163.8** Systemic recognition of immunogenic insulin peptides promotes T cell diabetic autoimmunity in multiple lymphoid tissues. **X. Wan, B. Zinselmeyer, P. Zakharov, A. Vomund, H. Hu, C. Lichti and E. Unanue.** Washington Univ. in St. Louis and Washington Univ. Sch. of Med. in St. Louis.
- BA.122 **163.9** WITHDRAWN.
- BA.123 **163.10** The REV-ERBs: negative Regulators of Th17 Cell Develop. and Autoimmunity . **M. Amir, S. Chaudhari, R. Wang, S. Campbell, T. Kamenecka and L. Solt.** Scripps Florida.
- BA.124 **163.11** OX40 signaling Induces Canonical Antigen Presentation-independent Proliferation of Human and Murine Thymic Regulatory T-cells. **P. Kumar, A. Marinelarena, P. Bhattacharya, A. Epstein and B. Prabhakar.** Univ. of Illinois, Chicago and Univ. of Southern California Keck Sch. of Med.
- BA.125 **163.12** Dock8-positive CD4 T cell as autoantibody-inducing CD4 T (*ai*CD4 T) cell that causes systemic Lupus Erythematosus (SLE): proof of concept of self-organized criticality theory as the cause of SLE. **S. Shiozawa, K. Tsumiyama, Y. Miyazaki, K. Sakurai and M. Miyazawa.** Inst. for Rheumatic Diseases, Japan, Kyushu Univ. Hosp., Beppu, Japan and Kinki Univ. Med. Sch., Japan.
- BA.126 **163.13** Deciphering functional aspects of multifaceted Gamma Delta T cells in the immunopathogenesis of *Pemphigus Vulgaris*. **D. Das, S. KV and A. Sharma.** All India Inst. of Med. Sci., India.
- BA.127 **163.14** Arginine methylation drives inflammatory T cell responses and autoimmunity. **L. Webb, H. Savardekar, K. Jablonski, S. Amici, L. Li, C. Li, R. Baiocchi and M. Guerau-De-Arellano.** Ohio State Univ. Col. of Med., Ohio State Univ. and Univ. of Florida.
- BA.128 **163.15** Ocular autoimmunity develops despite concurrent absence of Th1 and Th17 signature cytokines. **S.J. Bing, P. Silver, Y. Jittayasothorn, R. Horai and R. Caspi.** NEI, NIH.
- BA.129 **163.16** Islet-infiltrating effector and regulatory T cells specific for a single epitope possess distinct, but overlapping TCR repertoires. **Y. Jing, Y. Kong, M. Bettini and M. Bettini.** Texas Children's Hosp., Baylor Col. of Med., and McNair Med. Inst.
- BA.130 **163.17** The contribution of autoantibody-inducing CD4+ T cell (*ai*CD4 T cell) help to the B cell maturation and possible autoantibody in Syst.ic Lupus Erythematosus. **K. Sakurai, K. Tsumiyama and S. Shiozawa.** Kyushu Univ. Hosp. and Beppu, Japan.
- BA.131 **163.18** TFH-like cells promote TH17-induced neuro-inflammation. **J. Quinn, G. Kumar, A. Agasing, R. Ko and R. Axtell.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr.
- BA.132 **163.19** Level of self-reactivity modulates functional potential of effector T cells in autoimmune diabetes. **Y. Kong, M. Sprouse, Y. Jing, M. Bettini and M. Bettini.** Texas Children's Hosp., Baylor Col. of Med., Houston, Texas, USA 77030, Baylor Col. of Med. and McNair Med. Inst.
- BA.133 **163.20** Plasticity and functionality of Th17 subsets in EAE. **M. Butcher and J. Zhu.** NIAID, NIH.
- BA.134 **163.21** Cell-specific metabolic models reveal novel metabolic regulators of Th17 pathogenicity: from single-cell RNA-Seq to actionable metabolic targets. **A. Wagner, C. Wang, D. DeTomaso, A. Koul, A. Regev, V. Kuchroo and N. Yosef.** Univ. of California, Berkeley, Broad Inst. of MIT and Harvard, Howard Hughes Med. Inst., Massachusetts Inst. of Technol. and Harvard Med. Sch.
- BA.135 **163.22** NKG2D signaling within the pancreas enhances CD8⁺ central memory T cell formation and decreases non-obese diabetic (NOD) diabetes development. **A. Trembath, N. Sharma and M. Markiewicz.** Univ. of Kansas Med. Ctr.
- BA.136 **163.23** Diet-induced obesity impairs induction of Expt.al Autoimmune Encephalomyelitis and is restored by PD-1 blockade. **C. Le, L. Khuat, C. Dunai, A. Soulika and W. Murphy.** Univ. of California and Davis.
- BA.137 **163.24** Identifying novel regulators of T cell CNS infiltration in Expt.al Autoimmune Encephalitis. **H. Salzler, T. Carr, J. Wheaton and M. Ciofani.** Duke Univ. Med. Ctr. and Duke Univ. Sch. of Med.
- BA.138 **163.25** WITHDRAWN.
- BA.139 **163.26** Autoreactive T cells use IFN γ and Fas Ligand to clear melanocytes in vitiligo. **J. Strassner, V. Azzolino, J. Richmond and J. Harris.** Univ. of Massachusetts Med. Sch.
- BA.140 **163.27** Rapamycin suppresses T cell responses in recoverin-induced autoimmune retinopathy and prevents disease progression in the eyes. **E. Nikoospour, C. Lin, J. Heckenlively and S. Lundy.** Univ. of Michigan Med. Sch.
- BA.141 **163.28** ICOS-mediated phosphoinositide 3-kinase signaling controls induction and maintenance of collagen-induced arthritis. **V. Panneton, S.B. Yazdchi, M. Witalis, J. Chang and W. Suh.** Montreal Clin. Res. Inst., Canada, Univ. of Montreal, Canada and McGill Univ., Canada.
- BA.142 **163.29** Identification of highly preserved gene co-expression module groups among multiple isolated CD4⁺ cellular sample datasets contribute to the elucidation of cell-type specific systemic lupus erythematosus bio-signatures in humans. **N. Geraci, M. Catalina, S. Heuer, R. Robl, P. Lipsky and A. Grammer.** AMPEL BioSolutions.
- BA.143 **163.30** Stage specific requirement of TCF-1 for restraining Th17 immunity. **J. Zhang, Z. He and Z. Sun.** Beckman Res. Inst., City of Hope.

164. MECHANISMS OF CYTOKINE AND CHEMOKINE FUNCTION AND REGULATION

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- CAM.144 **164.1** CD28 suppresses IL-23- and IL-1 β -driven human Th17 development. **M. McGeachy, S. Revu, J. Wu, N. Rittenhouse, A. Menk, G. Delgoffe and A. Poholek.** Univ. of Pittsburgh and Univ. of Pittsburgh Sch. of Med.
- CAM.145 **164.2** A critical role for IL-37 in regulatory T cell maintenance and CD4+ T cell inhibition. **D. Osborne, J. Domenico, C. Dinarello and M. Fujita.** Univ. of Colorado.
- CAM.146 **164.3** Understanding the role of STAT4 in experimental autoimmune encephalomyelitis. **A. Anderson, B. Shin, I. McWilliams and L. Harrington.** Univ. of Alabama, Birmingham.
- CAM.147 **164.4** Arid5a orchestrates IL-17-mediated inflammation through post-transcriptional control of mRNA. **N. Amatya, J.A. Cruz, F. Aggor, A. Garg, A. Berman, U. Atasoy and S. Gaffen.** Univ. of Pittsburgh and Univ. of Michigan Med. Sch.
- CAM.148 **164.5** RNA Binding Protein HuR is critical for the regulation of IL-2 Expression in CD4+ T Cells. **T. Taylor, J. Ellis, S. Ridenhour and U. Atasoy.** Univ. of Missouri and Univ. of Michigan.
- CAM.149 **164.6** Manipulation of CXCR4 signaling by human cytomegalovirus (HCMV) interleukin-10. **J. Spencer and C. Tu.** Univ. of San Francisco.
- CAM.150 **164.7** IL-27 induces autophagy during monocyte-to-macrophage differentiation through a novel LC3-independent pathway. **S. Laverdure, Z. Wang, K. Nagashima, H. Lane and T. Imamichi.** Leidos Biomed. Res., Inc., Frederick Natl. Lab. for Cancer Res. and NIAID, NIH.
- CAM.151 **164.8** Identification of a conserved multi-lineage *l19* enhancer. **B. Koh, A.A. Qayum, Y. Fu and M. Kaplan.** Indiana Univ. Sch. of Med. and Virginia Commonwealth Univ.
- CAM.152 **164.9** The B cell IL-10 receptor suppresses antibody production. **A. Dooley, M. Quintana, M. Cheung, L.L. Sun and N. Gupta.** Cleveland Clin.
- CAM.153 **164.10** Type-1 interferon receptor knockout mice generate high titers of ADCC antibodies in response to vaccination with Δ gD-2 but display defects in executing ADCC. **J. Dardick, K. Weiss and W. Jacobs.** Albert Einstein Col. of Med. and Howard Hughes Med. Inst.
- CAM.154 **164.11** Identifying novel mechanisms regulating the expression of the inflammatory chemokine IP-10. **M.L. Richard, T. Caldwell, T. Nowling, G. Gilkeson and X. Zhang.** Med. Univ. of South Carolina.
- CAM.155 **164.12** How big is a big effect size? A nonparametric measure of effect size when modeling cytokines. **F. Qeadan, S. Dwivedi, E. Erdei and E. Beswick.** Univ. of New Mexico Sch. of Med.
- CAM.156 **164.13** Transcriptomics analysis reveals new insights into the roles of Notch1 signaling on macrophage polarization. **C. Hans, S. Sen, S. Zeng, N. Sharma, R. Dev, R. Hans and T. Joshi.** Univ. of Missouri.
- CAM.157 **164.14** Quantitative Bead-Based Multiplex Immunoassays for Mouse Anti-Virus Immune Response. **A. Zhao, B. Sun, J. Lehmann, S. Ji and W. Jiang.** BioLegend, Inc.
- CAM.158 **164.15** G protein Coupled Receptor Kinase 2 Levels Regulate Differential Internalization of C-C Chemokine Receptor 7 (CCR7) in Primary Mouse T Cells. **C. Vines, C. Winebrenner, C. Bill, A. Sanchez, B. Wagener and C. Bill.** The Univ. of Texas, El Paso, The Univ. of Kansas Med. Ctr. and Univ. of Alabama, Birmingham Sch. of Med.
- CAM.159 **164.16** WITHDRAWN.
- CAM.160 **164.17** BAFF antagonists designed by computer-aided drug design inhibited the interaction of BAFF with its receptors. **J. Sun, X. Zhang, Z. Zhen and X. Hao.** Tianjin Univ., China.
- CAM.161 **164.18** Soluble Transforming Growth Factor Beta-1 enhances murine mast cell cytokine release. **D. Lyons, M. Plewes and N. Pullen.** Univ. of Northern Colorado.
- CAM.162 **164.19** WITHDRAWN.
- CAM.163 **164.20** Stromal cell-derived factor-1 (CXCL12) activates integrins by direct binding to an allosteric ligand-binding site (site 2) of integrins without CXCR4. **Y. Takada, M. Fujita, P. Davari and Y. Takada.** Univ. of California, Davis and The Tazuke-Kofukai Med. Res. Inst., Japan.
- CAM.164 **164.21** Interleukin-33 modulates human natural killer cell responses. **D. Ohayon, A. Ali, P. Alarcon, D. Krishnamurthy, A. Osterburg, M. Borchers and S. Waggoner.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati.
- CAM.165 **164.22** Production and characterization of monoclonal antibodies specific for chicken interleukin-4. **A. Chaudhari, W. Kim and H. Lillehoj.** Animal Biosciences and Biotechnology Lab., Beltsville Agr. Res. Ctr., ARS, U.S. Dept. of Agr.
- CAM.166 **164.23** Development of an Ultra-Sensitive Multiplex (6-plex) Cytokine Digital Immunoassay with fg/ml Sensitivity. **J. Lambert, D. Shan, L. Chang, D. Rissin, S. Nie and D. Hanlon.** Quanterix.
- CAM.167 **164.24** Defining IL-2 mediated regulation of *l19* activation using knock-in reporter mice. **R. Kharwadkar, B. Ulrich and M. Kaplan.** Indiana Univ. Sch. of Med.
- CAM.200 **164.25** Signals that induce IL-10 production by peripheral regulatory T cells. **E. Dean, C. Moseley, R. Hatton, D. Pham and C. Weaver.** Univ. of Alabama, Birmingham.
- CAM.201 **164.26** Hypoxia and monomeric IgE activate common signaling pathways leading to chemokine CCL2 production in mast cells. **I. Ramirez-Moreno, A. Ibarra-Sánchez and C. Gonzalez-Espinosa.** Centro De Investigacion y De Estudios Avanzados Del IPN, Mexico.

165. T AND NKT DEVELOPMENT

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- HEM.202 **165.1** Revisiting the role of B7-CD28 co-stimulation in thymic negative selection: B7-CD28 co-stimulation enforces central tolerance by clonal deletion and Treg generation as independent cellular processes. **M. Watanabe and R. Hodes.** NCI, NIH.
- HEM.203 **165.2** A critical epithelial survival axis regulated by MCL-1 maintains thymic function. **R. Jain, J. Sheridan, A. Policheni, M. Heinlein, L. Gandolfo, G. Dewson, G. Smyth, S. Sansom, N. Fu, J. Visvader, J. Mintern, I. Tan, G. Holländer, A. Strasser and D. Gray.** Fred Hutchinson Cancer Res. Ctr., Walter and Eliza Hall Inst. of Med Res., Australia, Univ. of Oxford, United Kingdom, and Bio21 Mol. Sci. and Biotech. Inst., Australia.
- HEM.204 **165.3** MicroRNA miR-155 promotes medullary thymic epithelial cell maturity and regulatory T cell development. **J. Dong, L. Warner, M. Chen, L. Lin and L. Lu.** Univ. of California, San Diego.
- HEM.205 **165.4** Catalase expression mediates redox regulation of autophagy and promiscuous gene expression in thymic stromal cells. **A. Hester, M. Semwall, Y. Xiao, A. Almutairi, S. Cepeda, T. Venables and A. Griffith.** Univ. of Texas Hlth., San Antonio and Scripps Res. Inst.
- HEM.206 **165.5** Control of T cell development and function by Protein Arginine Methyltransferase 5. **J. Hagman, C. Fleenor, T. Arends, A. Pandey, C. Abraham, C. Dege, D. Straign, T. Danhorn, R. Reinhardt, J. Espinosa and B. O'Connor.** Ctr. for Genes and Envrn. and Hlth.
- HEM.207 **165.6** Lck activity regulates NKT subset development. **J. Alberola-Ila, H. Berrett and S. Henry.** Oklahoma Med. Res. Fndn. and Univ. of Oklahoma Hlth. Sci. Ctr.
- HEM.208 **165.7** Newly generated CD4⁺ T cells acquire metabolic quiescence after thymic egress. **Q. Ge and S. Zhang.** Peking Univ. Hlth. Sci. Ctr., China.
- HEM.209 **165.8** Multiparameter mass cytometry of T cell thymic development and selection. **S. Reich-Zeliger, A. Gavish, T. Salame, A. Ryvkin and N. Friedman.** Weizmann Inst. of Sci., Israel.
- HEM.210 **165.9** V β recombination signal sequences enforce TCR β allelic exclusion. **G. Wu, K. Yang-Iott and C. Bassing.** Univ. of Pennsylvania and Children's Hosp. of Philadelphia.
- HEM.211 **165.10** Type II Cytokines Guide Early Thymic Progenitor Lineage Choice and Influence Negative Selection of Myelin-Reactive T cells. **A. Cattin-Roy, S. Barik, M. Miller, T. Ukah and H. Zaghouni.** Univ. of Missouri.
- HEM.212 **165.11** MIR205HG is a Long Noncoding RNA with Distinct Functions in the Thymus versus the Anterior Pituitary. **N. van Oers, Q. Du, I. Dozmorov, P. Raj, E. Molina, M.T. de la Morena, J. Mendell and O. Cleaver.** Univ. of Texas Southwestern Med. Ctr.
- HEM.213 **165.12** Deletion of the highly conserved functional region of the *Cd4* enhancer NCE in RLM11 cells using CRISPR/Cas9 reduces CD4 expression. **S. Sarafova, C. Futral, P. Brennan and M. Guzynski.** Davidson Col. and Duke Univ.
- HEM.214 **165.13** HDAC3 is required for α NKT cells development and their NKT1/NKT2 lineage. **J. Wang, Q. Zhang, L. Zhou and Q. Mi.** Henry Ford Hlth. Sys.
- HEM.215 **165.14** The role CTCF and transcription in sculpting the TCR β repertoire. **V. Nganga, K. Majumder, B. Mishra, K. Kyle and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Univ. of Missouri.
- HEM.216 **165.15** Increased antioxidant activity mitigates age-associated dysfunction of thymic stromal cells in aged mice. **S. Cepeda, Y. Xiao, A. Hester, T. Venables and A. Griffith.** Univ. of Texas Hlth., San Antonio and The Scripps Res. Inst.
- HEM.217 **165.16** The Role of B7-CD28 and CD40L-CD40 costimulatory signaling in thymic Invariant NKT Cell subset development. **F. Alkhaleel, M. Watanabe and R. Hodes.** NCI, NIH.
- HEM.218 **165.17** GILT in thymic epithelial cells preferentially facilitates MHC class II-restricted presentation in generating central T cell tolerance to a self and melanoma antigen. **L. Meador, M. Rausch, T. Metzger, M. Anderson and K. Hastings.** Univ. of Arizona Col. of Med., Univ. of Arizona Cancer Ctr. and Univ. of California, San Francisco.
- HEM.219 **165.18** LUBAC-mediated signals in thymic epithelial cells prevent early thymic atrophy and immunodeficiency. **R. Jain, J. Sheridan, M. Heinlein, F. Kupresanin, C. Hall, J. Rickard, P. Bouillet, H. Walczak, A. Strasser, J. Silke and D. Gray.** Walter and Eliza Hall Inst. of Med. Res., Australia, Fred Hutchinson Cancer Res. Ctr. and Ctr. for Cell Death, Cancer and Inflammation, Univ. Col. London, United Kingdom.
- HEM.220 **165.19** Two-photon imaging reveals distinct contributions of Aire⁺ medullary thymic epithelial cells and dendritic cell subsets to central tolerance induction. **L. Ehrlich, J. Lancaster and H. Thyagarajan.** Univ. of Texas, Austin.
- HEM.221 **165.20** The use of alternative promoters in T cell development. **J. Chiang, W.L. Ku, K. Cui, K. Zhao and R. Hodes.** NCI, NIH, NHLBI, NIH and NIA, NIH.
- HEM.222 **165.21** WITHDRAWN.
- HEM.223 **165.22** Dual T cell receptor expression promotes agonist selection of regulatory T cells. **A. Balakrishnan, B. Jama and G. Morris.** Univ. of California, San Diego.
- HEM.224 **165.23** Thymic selection of innate self-specific T cells: both timing and signal strength matter. **G. Verstichel, N. Thiault, A. Chen and H. Cheroutre.** La Jolla Inst. for Allergy and Immunology.
- HEM.225 **165.24** A requirement for Lysine-specific histone demethylase 1A (Lsd1) for T cell development. **D. Stamos, L. Li, M. Rosenfeld and P. Love.** NICHD, NIH, Howard Hughes Med. Inst. and Univ. of California, San Diego.
- HEM.226 **165.25** Expression of Ly6C/6G defines a novel Aire-dependent subset of medullary thymic epithelial cells. **M. Matsumoto, M. Matsumoto, H. Nishijima and J. Morimoto.** Inst. for Enzyme Res., Tokushima Univ., Japan.

MONDAY—POSTER SESSIONS

166. HUMAN HOST DEFENSE

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- HUM.228 **166.1** Time of ART initiation in perinatally HIV-infected children impacts on HIV-specific T cell functionality. **S. Rinaldi, N. Cotugno, S. Pallikkuth, R. Pahwa, P. Palma and S. Pahwa.** Univ. of Miami Miller Sch. of Med., Bambino Gesù Children's Hosp., Italy.
- HUM.229 **166.2** The role of IL-23 in anti-CD4 autoantibody production in response to seasonal influenza vaccination in ART-treated HIV-infected individuals. **Z. Luo and W. Jiang.** Med. Univ. of South Carolina.
- HUM.230 **166.3** Herpesvirus co-infection alters immune responses to human influenza virus infection. **A. Souquette, C. Oshansky, L. Tang, S. Wong, T. Jeevan, R. Webby, J. DeVincenzo and P. Thomas.** St. Jude Children's Res. Hosp., Univ. of Tennessee Hlth. Sci. Ctr. and Le Bonheur Children's Hosp.
- HUM.231 **166.4** Observed increases in CD4:CD8 and TIGIT expression during *sofosbuvir*-based therapy in a longitudinal hepatitis C cohort. **T. Stevenson, B. McMahon, L. Townshend-Bulson, A. Hewitt, Y. Barbour, H. Espera, C. Homan, D. Varney, J. Gove, W. Rhodes, M. Snowball, E. Otto, J. Plotnik, S. Negus and B. Simons-Petrusa.** Alaska Native Tribal Hlth. Consortium.
- HUM.232 **166.5** A missense mutation impairs ITK function in a patient with severe Epstein-Barr virus disease. **K. Dowdell, M. Howe, A. Roy, J. Niemela, W. Wilson, J. McElwee and J. Cohen.** NIAID, NIH, Clin. Ctr., NIH, NCI, NIH and Merck Res. Labs.
- HUM.233 **166.6** Antioxidant treatment ameliorates cigarette smoke and respiratory syncytial virus-induced inflammatory response by blocking HMGB1 release. **Y. Hosakote, K. Rayavara, L. Hallberg, B. Ameredes and A. Kurosky.** The Univ. of Texas Med. Br., Galveston.
- HUM.234 **166.7** Effects of HMGB1 gene silencing on respiratory syncytial virus-induced inflammatory response. **K.R. Kempaiah, A. Kurosky and Y. Hosakote.** The Univ. of Texas Med. Br., Galveston.
- HUM.235 **166.8** Evaluation of the pig-tailed macaque (*Macaca nemestrina*) as a model of human *Staphylococcus aureus* nasal carriage. **A. Cole, Y. Cosgrove-Sweeney, A. Lasseter, J. Gray, A. Beavis, C. Chong, S. Hajheidari, A. Beyene, D. Patton and A. Cole.** Univ. of Central Florida Col. of Med. and Univ. of Washington.
- HUM.236 **166.9** Cessation from smoking improves innate host defense and clearance of experimentally inoculated nasal *S. aureus*. **A. Cole, M. Schmidt-Owens, A. Beavis, C. Chong, P. Tarwater, J. Schaus, M. Deichen and A. Cole.** Univ. of Central Florida Col. of Med., Univ. of Central Florida and Paul L. Foster Sch. of Med.
- HUM.237 **166.10** Single cell analyses of human antibody responses to *Vibrio cholerae*. **R. Kauffman, T. Bhuiyan, O. Adekunle, E. Ryan, F. Qadri, J. Harris and J. Wrammert.** Emory Univ., ICDDR'b, Bangladesh, Harvard Univ. and Emory Univ. Sch. of Med.
- HUM.238 **166.11** Identification of *Francisella tularensis* lipid extracts activating natural killer T (NKT) cells. **P.D. Valle, T. Duarte and C. Spencer.** Univ. of Texas, El Paso.
- HUM.239 **166.12** Pathophysiology of rheumatoid arthritis is associated with polymorphisms in *Protein Tyrosine Phosphatase Non-receptor type 2 and 22 (PTPN2/22)* and susceptibility to *Mycobacteria*. **R. Sharp, S. Beg and S. Naser.** Univ. of Central Florida Col. of Med.
- HUM.240 **166.13** Effect of malaria pathology on CD4 cells. **E. Amadi, E. Eze, V. Chigor and V. Ayawan.** Enugu State Univ. of Sci. and Technol., Nigeria, Univ. of Nigeria N, Nigeria and Caritas Univ. Enugu Nigeria, Nigeria.
- HUM.241 **166.14** Analysis of immune cells from mice with Chagas disease treated with NPOx-B. **O.A. Manzano, V.G. Galicia, M.N.F. Castro, M. Camacho, I. Baeza, C. Wong, C. Wong-Baeza and A. Reséndiz-Mora.** ENCB-IPN, Mexico.
- HUM.242 **166.15** Differences in the male and female immune response to *Cryptococcus neoformans* infections. **T. Guess and E. McClelland.** Middle Tennessee State Univ.
- HUM.243 **166.16** Multidimensional phenotypic immune profiling of *Chlamydia trachomatis* infected women using mass cytometry platform. **A. Kollipara, M. Iannone, T. Poston, D. Lee, C. O'Connell, X. Zheng, S. Hillier, H. Wiesenfeld and T. Darville.** Univ. of North Carolina, Chapel Hill, Natl. Inst. of Environ. Hlth. Sci. and Univ. of Pittsburgh.
- HUM.244 **166.17** Infantile-onset primary alveolar proteinosis with hypogammaglobulinemia caused by heterozygous mutations of 2'-5'-oligoadenylate synthase 1. **T. Okano, K. Cho, S. Kawamura, N. Onai, W. Fujii, S. Kakuta, M. Kanai-Azuma, T. Ohteki, K. Imai, H. Kanegane, M. Otsu, T. Ariga and T. Morio.** Tokyo Med. and Dent. Univ., Japan, Hokkaido Univ., Japan and Univ. of Tokyo, Japan.
- HUM.245 **166.18** Differences of C-type lectin receptors and their adaptor molecules in the peritoneal fluid of patients with endometriosis and gynecologic cancers. **D.C. Park, Y.I. Kim, J. Lee and S.G. Yeo.** St. Vincent's Hosp., The Catholic Univ. of Korea, South Korea, Med. Sci. Res. Inst., Kyung Hee Univ. Med. Ctr., Kyung Hee Univ., South Korea, and Sch. of Med., Kyung Hee Univ., Seoul, South Korea.
- HUM.246 **166.19** Characterization of the Thymic Hypoplasia in Mouse Models of 22q11.2 Deletion Syndrome (DiGeorge Syndrome). **N. v. Oers, Q. Du, M.T. de la Morena, I. Dozmorov, S. Khan and O. Cleaver.** Univ. of Texas Southwestern Med. Ctr.
- HUM.247 **166.20** Compound Heterozygous Mutations in *Forkhead Box N1 (FOXP1)* Lead to a Severe Immunodeficiency but Normal Hair and Nail Development in Patients. **N. v. van Oers, S. Khan, L. Hunyh, Q. Du, G. Padron, E. Molina, I. Dozmorov, M. Markert and M. Teresa de la Morena.** Univ. of Texas Southwestern Med. Ctr. and Duke Univ. Med. Ctr.
- HUM.248 **166.21** Loss of acid ceramidase activity in a murine model of Farber disease leads to an early and profound immuno-phenotype that reflects alterations in both the innate and adaptive immune cell populations. **C. Coquery, B. Sampey, A. Solyom, E. Gaukel, X. He, C. Zhu, V. DeAngelis, E. Schuchman and S. Wring.** Roivant Sci., Enzyvant Therapeutics and Icahn Sch. of Med., Mount Sinai.

- HUM.249 **166.22** High resolution immune function analyses reveal markedly attenuated IL-7 signaling function restricted to the CD8 T cell compartment in an immune-compromised neonate. **A. Khanolkar, J. Wilks, G. Liu, B. Simpson, D. Kirschmann and E. Caparelli.** Ann and Robert H. Lurie Children's Hosp. of Chicago.
- HUM.250 **166.23** Elevation of choline metabolism contributes to the prolonged B cell survival and expanded B cell compartment in the spleen of B cell-specific TRAF3-deficient mice. **S. Gokhale, S. Zhu, W. Lu and P. Xie.** Rutgers Univ. and Princeton Univ.
- HUM.251 **166.24** Skin Microbiota as Antigenic Triggers for Cutaneous T Cell Lymphoma. **C. Dehner, W. Ruff, F. Foss, M. Girardi and M. Kriegel.** Yale Sch. of Med.
- HUM.252 **166.25** WITHDRAWN.
- HUM.253 **166.26** Genetic mutations in Primary Immune Deficiencies (PID) patients in Azerbaijan population. **N. Fazal, G. Nasrullayeva, S. Ibrahimova, V. Mammadova and G. Aliyeva.** Chicago State Univ. and Azerbaijan Med. Univ., Azerbaijan.
- HUM.254 **166.27** Cell-intrinsic PD-L1 and PD-1 signal effects in bladder cancer. **D. Zhang, X. Sun, H. Gupta, R. Reyes, R. Svatek and T. Curiel.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- HUM.255 **166.28** Abnormal T follicular helper cell subsets in Chronic Lymphocytic Leukemia. **A. Marshall, C. Zhang, S. Hou and X. Wu.** Univ. of Manitoba, Canada.
- HUM.256 **166.29** Gain-of-function STING mutations induce T cell death in the SAVI mouse. **J. Wu and N. Yan.** Univ. of Texas Southwestern Med. Ctr.
- HUM.257 **166.30** A blood immune suppression index (BISI) based on IL10/IL12 and ARG1/NOS2 ratios is predictive of immune dysfunction and respiratory failure after burn injury in patients. **W. Stepp, M. Malfitano, I. Saklayici, S. Jones, S. Ortiz-Pujols, R. Maile and B. Cairns.** Univ. of North Carolina, Chapel Hill.
- HUM.258 **166.31** Spatial map of human B cell compartmentalization. **L. Borghesi, N. Weisel, A. Liu and M. Shlomchik.** Univ. of Pittsburgh Sch. of Med.
- HUM.259 **166.32** Sustained secretion of immunoglobulin by long-lived plasma cells from human nasal biopsies. **J. Song, Y. Zhang, H. Wang, Z. Wang and Z. Liu.** Tongji Hosp., Tongji Med. Col., Huazhong Univ. of Sci. and Technol., China, and Guangzhou Women and Children's Med. Ctr., China.
- HUM.260 **166.33** Cell Death Markers in Sepsis. **C. Madiraju, C.S. Mallarpu, S. Prasad, M. Singarapu, J. Kim, N. Haririparsa, N. Bratic, H. Brar, J. Cashman and L.K. Chelluri.** Human BioMolec., Marshall B. Ketchum Univ. and Gleneagles Global Hosp., Hyderabad TS, India.
- HUM.261 **166.34** Mouse Models for Immunology Research available from The Jackson Laboratory Repository. **A. Valenzuela, K. Fancher, S. Rockwood, C. Lutz and The Genetic Resource Sci. Team.** The Jackson Lab.
- HUM.262 **166.35** Increased systemic microbial translocation in depression during early pregnancy. **Z. Zhou, C. Guille and W. Jiang.** Med. Univ. of South Carolina.
- HUM.263 **166.36** Critical roles for microbiota-mediated regulation of Th17 responses in a maternal immune activation model of autism. **J. Lukens, C. Lammert, E. Frost and C. Bellinger.** Univ. of Virginia.
- HUM.264 **166.37** Macrophage-associated lipin-1 enzymatic activity contributes to modified low-density lipoprotein-induced pro-inflammatory signaling and atherosclerosis. **A. Vozenilek, A. Navratil, J. Green, D. Coleman, C. Blackburn, A. Finney, B. Pearson, R. Chrast, B. Finck, R. Klein, A. Orr and M. Woolard.** Louisiana State Univ. Hlth. Sci. Ctr., Univ. of California, San Diego, Feist-Weiller Cancer Ctr., Karolinska Inst., Sweden and Washington Univ. in St. Louis.
- HUM.265 **166.38** Extracellular ASC in bronchoalveolar lavage (BAL) fluid exists primarily in the soluble form and not in a speck complex. **C. McAndrew, M. Tsai, N. Napolitano, M. Song, P. Shields, M. Gavrilin and M. Wewers.** Ohio State Univ.
- HUM.266 **166.39** Heterogeneity of plaque macrophages derived from CX3CR1+ monocyte precursors in atherosclerosis progression and regression at a single-cell level. **J. Lin, H. Nishi, J. Poles, C. Mccauley, K. Rahman, A. Hine, N. Vozhilla, E. Fisher and P. Loke.** New York Univ. Sch. of Med.
- HUM.267 **166.40** Cardiac endothelial cells produce complement C3 in response to hypoxia. **M. Zhang, X. Li, S. Kahyaoglu, M. Sironi and A. Mantovani.** SUNY Downstate Med. Ctr. and Humanitas Clin. and Res. Ctr., Italy.
- HUM.400 **166.41** The Benzathine Penicillin G (BPG) Reformulation Preferences Study - Samoa. **D. Sika-Paotonu, S. Viali, L.T.T.K. Naseri, F.L.T.I.A. So'o, T.V. Lameko, M. Punivalu, F. Maiava, S.J. Ah-Ching, R. Tiatia, Y.K. Sung, R. Zonneveld, B. Poot, P. Norris, B. Betty, C. Thornley, B. Eddie, R. Wineera-Parai, M. Baker and J. Carapetis.** Telethon Kids Inst., Australia, Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand, Natl. Hlth. Service, Samoa, Ministry of Hlth., Samoa, Natl. Univ. of Samoa, Samoa, Oceania Univ. of Samoa, Samoa, Parliament of Samoa, Samoa, Dept. of Public Hlth., Univ. of Otago, New Zealand, YKS Ltd Auckland, New Zealand, Sch. of Pharmacy, Univ. of Otago, New Zealand, Porirua Union and Community Hlth. Services, New Zealand, Regional Public Hlth., New Zealand, Compass Hlth., New Zealand, Univ. of Western Australia, Australia and Princess Margaret Hosp., Australia.
- HUM.401 **166.42** Understanding protective plasma levels of penicillin and monitoring antibody responses for the prevention of GAS infection in a paediatric population in New Zealand. **D. Sika-Paotonu, R. Tiatia, C. Thornley, B. Betty, R. Wineera-Parai, B. Eddie, M. Baker, S. Salman, J. Marsh, L. Manning, J. Joseph, R. Hand and J. Carapetis.** Telethon Kids Inst., Australia, Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand, Dept. of Public Hlth., Univ. of Otago, Wellington, New Zealand, Regional Public Hlth., Wellington, New Zealand, Porirua Union and Community Hlth. Services, New Zealand, Compass Hlth., New Zealand, Univ. of Western Australia, Australia, PathWest Labs., Australia and Princess Margaret Hosp., Australia.

MONDAY—POSTER SESSIONS

- HUM.402 **166.43** Clonally expanded alpha-chain T-cell receptor (TCR) transcripts are present in aneurysmal lesions of patients with Abdominal Aortic Aneurysm (AAA). **S. Lu, J. White, R. Judy, L. Merritt, W. Lin, C. Solomides, X. Zhang, I. Nwaneshiudu, D. Monos, J. Gaughan, E. Oleszak and C. Platsoucas.** Temple Univ. Sch. of Med., Advocate Lutheran Gen. Hosp., Univ. of Illinois Sch. of Med., Old Dominion Univ., Thomas Jefferson Univ. Hosp., Univ. of Pennsylvania Perelman Sch. of Med. and The Children's Hosp. of Philadelphia, Biostatistics Consulting Ctr. and Temple Univ. Sch. of Med.
- HUM.403 **166.44** New Paradigm in Kidney Stone Disease: Randall's Plaque Alters Monocytes and Macrophage Activity Promoting Kidney Stone Formation. **P. Dominguez-Gutierrez, S. Kusmartsev, B. Canales and S. Khan.** Univ. of Florida Col. of Med.
- HUM.404 **166.45** Granulocyte-derived extracellular vesicles activate monocytes and are associated with mortality in ICU patients. **P. Norris, H. Inglis, M. Abdel-Mohsen, X. Deng, A. Adelman, K. Schechtman, S. Keating, M. Cohen, E. Jacobs, S. Pillai, J. Lacroix, P. Spinella and A. Danesh.** Blood Sys. Res. Inst., Univ. of California, San Francisco, Washington Univ. Sch. of Med. in St. Louis, Univ. of California, San Francisco, Sch. of Med. and Univ. of Montreal, Canada.
- HUM.405 **166.46** A Role for DPP4 Expression via Oxidized LDL/TLR4/TRIF/CD36 Pathways in Human Obesity and Atherosclerosis. **J. Zhong, X. Rao, L. Duan, C. Xia, J. Varghese, G. Mihai and S. Rajagopalan.** Case Western Reserve Univ., Ohio State Univ. and Harvard Med. Sch.
- HUM.406 **166.47** The source of fat in a high fat diet affects systemic inflammatory markers and modulates gene expression in intestinal, hepatic and adipose tissues of growing pigs. **M. Blais, J.L.M. Gonzalez, Y. Pouliot, S. Gauthier, Y. Boutin, D. Roy, A. Marette, C. Asselin and M. Lessard.** Agr. and Agri-Food Canada, Canada, Univ. Laval, Canada, TransBioTech, Canada and Univ. of Sherbrooke, Canada.
- HUM.407 **166.48** Epigenetic Regulation of the COX-2/PGE2 Pathway in Macrophages Results in Impaired Wound Healing in Diabetes. **F. Davis, A. Joshi, A. Kimball, A. den Dekker, M. Schaller, C. Wilke, B. Moore and K. Gallagher.** Univ. of Michigan.
- HUM.408 **166.49** Molecular mimicry and signaling by human monoclonal autoantibody derived from human myocarditis and heart failure may contribute to fibrosis and remodeling in cardiomyopathy. **J. Myers, K. Alvarez, S. Reim, R. Bentley, L. Garman, A. Chen, G. Wiley, M. Bebak, C. Montgomery, P. Gaffney, K. Simpson, S. Stavarakis, L. Cooper and M. Cunningham.** Univ. of Oklahoma Hlth. Sci. Ctr., Oklahoma Med. Res. Fndn., Washington Univ. in St. Louis and Mayo Clin.
- HUM.409 **166.50** Human anti-dopamine receptor 1 monoclonal autoantibody (mAb) identifies potential mechanisms of neuronal signaling in post-infectious autoimmune-mediated neuropsychiatric disease. **C. Menendez, J. Zuccolo, A. Zuccolo, H. Ben-Pazi, C. Cox, S. Swedo and M. Cunningham.** Univ. of Oklahoma Hlth. Sci. Ctr., Delivra Inc, Canada, Neuropediatric Unit Shaare Zedek Med. Ctr., Israel and NIMH.
- HUM.410 **166.51** Anti-inflammatory miR-146a is protective against diet-induced obesity and regulates macrophage metabolism. **M. Nelson, M. Runtsch and R. O'Connell.** Univ. of Utah
- HUM.411 **166.52** Obesity-driven IL-18 inhibits the suppressive function of FOXP3+ T-regulatory (Treg) cells. **T. Akimova, T. Zhang, U. Beier, J. Jiao, J. Diamond, J. Christie, R. Simmons and W. Hancock.** Children's Hosp. of Philadelphia and Perelman Sch. of Med., Univ. of Pennsylvania.
- HUM.412 **166.53** Altered cellular metabolism in Mucosal-associated invariant T cells drives dysregulated effector functions in obesity. **A. Hogan, A. O'Brien, D. Finlay, L. Lynch and D. O'Shea.** Maynooth Univ., Ireland, Univ. Col. Dublin, Ireland, Trinity Col. Dublin, Ireland and Harvard Med. Sch.
- HUM.413 **166.54** Cardiac damage after experimental blunt chest trauma and multiple trauma with hemorrhagic shock. **M. Kalbitz, B. Weber, C. Braun, I. Lackner, M. Haffner-Luntzer, M. Huber-Lang and F. Gebhard.** Ulm Univ., Germany.
- HUM.414 **166.55** TLR3 contributes to degeneration of dopamine neurons in an MPTP mouse model of Parkinson's disease. **Y. C. Chung, J. Jeong and B.K. Jin.** Kyung Hee Univ., South Korea.
- HUM.415 **166.56** Translational profiling of microglia in Alzheimer's disease models. **J. Fryer and S. Kang.** Mayo Clin.
- HUM.416 **166.57** Characterization of Macrophage Subtypes during the Acute Inflammatory Phase of Fracture Healing. **J. Cottrell.** Seton Hall Univ.
- HUM.417 **166.58** Prenatal Maternal Immune Activation Sensitizes the Neuroinflammatory Responses to Neonatal Hypoxic-Ischemic Brain Injury. **C. Kuan and H. Chen.** Univ. of Virginia.
- HUM.418 **166.59** IL-12 induced STAT4 activation plays a role in pro-inflammatory neutrophil functions. **W. Keeter, A. Moriarty, M. Butcher, K. Ma, J. Nadler and E. Galkina.** Eastern Virginia Med. Sch.
- HUM.419 **166.60** Absence of CD137L decreases mechanical hypersensitivity and functional recovery time following sciatic nerve crush. **A. Wakley and L. Cao.** Univ. of New England.
- HUM.420 **166.61** Chronic Sleep Fragmentation Plays A Pro-Atherogenic Role In Atherogenesis. **A. Moriarty, T. Waseem, M. Butcher, J. Heaton, L. Wellman, L. Sanford and E. Galkina.** Eastern Virginia Med. Sch.
- HUM.421 **166.62** Autoantibodies to myelin proteins as biomarkers to identify nervous system injuries in Gulf War Illness and other neuromuscular disorders. **M. Brahmajothi and M. Abou-Donia.** Duke Univ. Med. Ctr.
- HUM.422 **166.63** Anti-neuronal and anti-microbial immunity link CaMKII and autism spectrum disorder with pediatric acute-onset neuropsychiatric syndrome. **J. Chain, C. Cox, K. Alvarez, C. Menendez, S. Reim, P. Shawler, B. Richmand, J. Stoner, R. Frye, S. Swedo, B. McBride and M. Cunningham.** Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Arkansas for Med. Sci. and NIMH.

- HUM.423 **166.64** Alcohol abstinence partially restores peripheral mucosal-associated invariant T cells in patients with alcoholic hepatitis. **W. Li, E. Lin, S. Liangpunsakul, S. Rane, J. Lan, S. Chalasani, P. Puri, P. Kamath, A. Sanyal, V. Shah, B. Katz, S. Radaeva, D. Crabb, N. Chalasani and Q. Yu.** Indiana Univ., Virginia Commonwealth Univ., Mayo Clin. and NIAAA, NIH.
- HUM.424 **166.65** A novel variant in *ATM* gene causes ataxia telangiectasia revealed by whole-exome sequencing. **N. Alonazi.** Military Hosp. Riyadh, Saudi Arabia.
- HUM.425 **166.66** CD157 contribute to host resistance to Mycobacterium tuberculosis by enhancing macrophage TLR2-dependent ROS production. **X. Chen, Q. Yang, Y. Cai, M. Liao and A. Cooper.** Shenzhen Univ. Sch. of Med., China, Shenzhen Third People's Hosp., China and Univ. of Leicester, United Kingdom.
- HUM.426 **166.67** BCAS2 is a neuron protector to inhibit microgliosis. **S.L. Chen.** Natl. Taiwan Univ., Taiwan.
- HUM.227 **166.68** The Benzathine Penicillin G (BPG) Reformulation Preferences Study-Tonga. **D. Sika-Paotonu, G. Aho, L.K. 'Ulufonua, M. 'Ofanoa, S. 'Akau'ola, K. Vaea, A.A. Tuipulotu, S. Toumoua, F. Lilo, L. Fotu, L. Fotu, R. Tiatia, Y. K. Sung, R. Zonneveld, B. Poot, P. Norris, B. Betty, C. Thornley, B. Eddie, R. Wineera-Parai, M. Baker and J. Carapetis.** Telethon Kids Inst., Australia, Dept. of Pathology & Molec. Med., Wellington Sch. of Med. and Hlth. Sci., Univ. of Otago, New Zealand, Victoria Univ. of Wellington, New Zealand, Maurice Wilkins Ctr. for Molec. Biodiscovery, New Zealand, Vaiola Hosp. Nuku'alofa, Tonga, Univ. of Auckland, New Zealand, Ministry of Hlth., Tonga, Lab. Division, Vaiola Hosp., Nuku'alofa, Tonga, Dept. of Public Hlth., Univ. of Otago, Wellington, New Zealand, YKS Ltd Auckland, New Zealand, Sch. of Pharmacy, Univ. of Otago, Dunedin, New Zealand, Porirua Union and Community Hlth. Services, New Zealand, Regional Public Hlth., Wellington, New Zealand, Compass Hlth., New Zealand, Univ. of Western Australia, Australia, Princess Margaret Hosp. and Perth, Australia.
- 167. METABOLISM AND MOLECULAR IMMUNOLOGY**
- Poster Session**
- MON. 2:30 PM—EXHIBIT/POSTER HALL
- IRM.428 **167.1** Early Inhibition of Fatty Acid Synthesis Reduces Generation of Memory Precursor Effector T cells in Chronic Infection. **S. Ibitokou, B. Dillon, M. Sinha, B. Szczesny, A. Delgadillo, D. R. Abdelrahman, C. Szabo, L. Abu-Elheiga, C. Porter, D. Tuvdendorj and R. Stephens.** Univ. of Texas Med. Br. and Baylor Col. of Med.
- IRM.429 **167.2** Regulation of NKT cell metabolism by PLZF. **A. Kumar, K. Pyaram, E. Yarosz, S. Giri and C. Chang.** Univ. of Michigan and Henry Ford Hlth. Sys.
- IRM.430 **167.3** Distinct iron homeostasis in Th1- and Th2-biased mouse strains. **X. Xiao, P. Saha, B.S. Yeoh and M.V. Kumar.** Pennsylvania State Univ. and Univ. of Toledo.
- IRM.431 **167.4** Proposed 3-D Structure of a Critical Protein-Protein Interaction Required for Transcription of the *IL1B* Gene Coding for Human Interleukin 1 β . **S. Pulugulla, R. Workman, N. Rutter, E. Esposito, Z. Yang, J. Madura and P. Auron.** Duquesne Univ., exeResearch and Pfizer, Inc.
- IRM.432 **167.5** The role and regulation of cell-intrinsic glycogen metabolism in dendritic cell immune responses. **P. Thwe, L. Pelgrom, R. Cooper, S. Beauchamp, J. Reisz, A. D'Alessandro, B. Everts and E. Amiel.** Univ. of Vermont, Leiden Univ. Med. Ctr., Netherlands and Univ. of Colorado, Denver.
- IRM.433 **167.6** Tristetraprolin family of RNA binding proteins post-transcriptionally regulate inflammation and metabolic responses in the liver. **S. Patial and P. Blakeshear.** Louisiana State Univ. and Natl. Inst. of Environ. Hlth. Sci.
- IRM.434 **167.7** Metabolomics analysis reveals differential T cell serine metabolism as a target in autoimmunity. **G. Andrejeva, M. Wolf, M. Johnson, A. Rutledge, G. Codreanu, S. Sherrod, D. Gutierrez, K. Rose, J. Norris, K. Schey, J. McLean and J. Rathmell.** Vanderbilt Univ. Med. Ctr. and Vanderbilt Univ.
- IRM.435 **167.8** Aire is not essential for regulating autoimmune pathology in mice transgenic for human autoimmune-disease associated MHC class II genes HLA-DR2b and HLA-DR4. **S. Nalawade, N. Ji, E. Kraig and T. Forsthuber.** The Univ. of Texas, San Antonio and Univ. of Texas Hlth.
- IRM.436 **167.9** Non-coding RNA regulation of immunity. **J. Schaefer and T. Schnupp.** Univ. of Texas Hlth. Sci. Ctr. Sch. of Dent. and Texas A&M Univ.
- IRM.437 **167.10** Correlative recurrent expression of predicted elements (CREPE): a novel computational approach to predict LncRNA Function. **S. Pyfrom, O. Koues, R. Kowalewski, E. Oltz and J. Payton.** Washington Univ. Sch. of Med. and Vanderbilt Univ.
- IRM.438 **167.11** Targeted ROCK2 inhibition modulates metabolism through activation of AMPK signaling pathway which is contributing to regulation of inflammatory immune responses in humans. **W. Chen, J. Weiss, M. Nyuydzefe, J. Jingya, B. Gillivray, J. Ryan, B. Blazar, S. Waksal and A. Zanin-Zhorov.** Kadmon Corp., Univ. of Minnesota and Weill Cornell Med.
- IRM.439 **167.12** Purine nucleotide metabolism regulates expression of human MICA. **C. O'Callaghan, M. McCarthy, G. Moncayo, T. Hiron, N. Jakobsen, A. Valli, T. Soga and J. Adam.** Univ. of Oxford, United Kingdom and Keio Univ., Japan.
- IRM.440 **167.13** Cereblon tunes c-Myc protein expression and regulates the metabolic function of activated T cells. **P. Epling-Burnette, R. He, A. Akuffo, M. Beatty, W. Goodheart, M. Fernandez and J. Cleveland.** H. Lee Moffitt Cancer Ctr. and Res. Inst.
- IRM.441 **167.14** Sirt1-mediated metabolic modulation of *Aicda*, class-switch DNA recombination and somatic hypermutation. **H. Gan, T. Shen, H. Sanchez, Z. Xu, H. Zan and P. Casali.** Univ. of Texas Hlth. Sci. Ctr. and San Antonio, Second Xiangya Hosp., Central South Univ., China.

MONDAY—POSTER SESSIONS

- IRM.442 **167.15** Programmed cell death ligand 1 (PD-L1) regulates tumor initiating cell (TIC) generation by controlling the stemness gene *Oct4* through mTORC1. **H. Gupta, J. Deng, C. Clark, J. Drerup, B. Wu, G. Sareddy, V. Hurez, R. Vadlamudi, R. Li and T. Curiel.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- IRM.443 **167.16** A mechanistic base for alternative splicing of human immune system-derived thyroid stimulating hormone (TSH) β -subunit. **J. Klein.** Univ. of Texas Hlth. Sci. Ctr., Houston.
- IRM.444 **167.17** MRP14 as an important regulator of macrophage function in type 2 diabetes mellitus. **C. Xia, X. Rao, Y. Wang, D. Simon, S. Rajagopalan and J. Zhong.** Case Western Reserve Univ.
- IRM.445 **167.18** The engagement of the aryl hydrocarbon receptor by tryptophan derivatives can prevent the development of anti-FVIII antibodies in an experimental model of hemophilia A. **D. Matino, M. Gargaro, G. Scalisi, G. Manni, A.D. Luca, P. Puccetti, F. Quintana, I. Alfonso and F. Fallarino.** Univ. of Perugia, Italy, Brigham and Women's Hosp. and McMaster Univ., Canada.
- IRM.446 **167.19** Statins regulates inflammatory macrophage phenotype through the activation of AhR. **G. Manni, M. Gargaro, A. Turco, G. Scalisi, D. Matino, M. Pirro and F. Fallarino.** Univ. of Perugia, Italy.
- 168. INNATE IMMUNITY TO MICROBES II**
- Poster Session**
- MON. 2:30 PM—EXHIBIT/POSTER HALL
- INC.448 **168.1** Regulation of cytokine-producing ILC2 subsets by AP-1 transcription factor, BATF. **P. Patel, K. Bao and R. Reinhardt.** Natl. Jewish Hlth. and Duke Univ.
- INC.449 **168.2** Natural Secretory Immunoglobulins Enhance Norovirus Infection. **H. Turula, A. Pry, C. Wilke, J. Fava and C. Wobus.** Univ. of Michigan.
- INC.450 **168.3** Exploring anti-viral and immunomodulatory activities of Regenerating Islet-Derived proteins. **X.D. Luna, I. Hsieh, M. White and K. Hartshorn.** Boston Univ. Sch. of Med.
- INC.451 **168.4** Meningeal inflammation drives long-term engraftment by monocytes that impair CNS immunity. **R. Rua, J. Lee, A. Silva, M. Dragan, K. Johnson and D. McGavern.** NINDS, NIH.
- INC.452 **168.5** Cox10-deficient NK cells have increased apoptosis during MCMV infection, leading to susceptibility. **A. Mah, M. Keppel, N. Saucier, V. Sexl, A. French and M. Cooper.** Washington Univ. Sch. of Med. in St. Louis and Univ. of Vet. Med. Vienna, Austria.
- INC.453 **168.6** $\gamma\delta$ T cells orchestrate the induction of protective Type 2 immunity in neonatal influenza infection. **X. Guo and P. Thomas.** St. Jude Children's Res. Hosp. and Univ. of Tennessee Hlth. Sci. Ctr.
- INC.454 **168.7** Zika, dengue and yellow fever viruses induce differential anti-viral immune responses in human monocyctic and first trimester trophoblast cells. **H. Luo, E. Winkelmann, I. Fernandez-Salas, L. Li, S. Mayer, R. Daniz-Lozano, R.M. Sanchez-Casas, N. Vasilakis, R. Tesh, A.D. Barrett, S.C. Weaver and T. Wang.** Univ. of Texas Med. Br., Galveston, Centro Regional de Salud Pública, Instituto Nacional de Salud Pública, Tapachula, Mexico and FMVZ/CIDICS, Universidad Autonoma de Nuevo Leon and Monterrey NL, Mexico.
- INC.455 **168.8** Langerhans cells are required for the priming and induction of an optimal immune response against an acute DNA virus infection. **E. Wong, R. Xu, L. Tang, J. Meng and L. Sigal.** Thomas Jefferson Univ. and Fox Chase Cancer Ctr.
- INC.456 **168.9** AXL Promotes Zika Virus Infection in Astrocytes by Antagonizing Type I Interferon Signaling. **J. Chen, X. Zhang and J. Xu.** Shanghai Public Hlth. Clin. Ctr., China.
- INC.457 **168.10** Plasmacytoid dendritic cells inhibit *Toxoplasma gondii* infection induced cytokine storm. **W. Zhou, D. Wang and H. Tang.** Taishan Med. Univ., China.
- INC.458 **168.11** Effects of serum amyloid protein A on influenza A virus replication and viral interactions with neutrophils. **M. White, I. Hsieh, X.D. Luna and K. Hartshorn.** Boston Med. Ctr. and Boston Univ. Sch. of Med.
- INC.459 **168.12** T-bet-expression in dendritic cells is essential for *T. gondii* clearance. **A. Lopez-Yglesias, E. Burger, A. Araujo, A. Martin and F. Yarovinsky.** Univ. of Rochester Med. Ctr.
- INC.500 **168.13** Prolonged cell survival may contribute to the cytokine storm observed during the coinfection of influenza A virus (IAV) and *Streptococcus pneumoniae*. **A. Rodriguez and C. Lupfer.** Missouri State Univ.
- INC.501 **168.14** IL-1 α facilitates the entry of immune cells into the brain during chronic *Toxoplasma gondii* infection. **S. Batista, C. O'Brien and T. Harris.** Univ. of Virginia Sch. of Med.
- INC.502 **168.15** The effect of Ebola Virus secreted glycoprotein on activated macrophages. **J. Bradley, L. Shapiro, C. Hitchcock, D. Kulis, L. Needell, N. Henry and R. Gregg.** Edward Via Col. of Osteopathic Med.
- INC.503 **168.16** The Notch signaling pathway controls basophil responses during helminth-induced type 2 inflammation. **L. Webb, S. Peng, O. Oyesola, R. Cubitt, C. Danko and E.T. Wojno.** Cornell Univ.
- INC.504 **168.17** A new malaria killer: Fc receptor gamma chain and PLZF identify NK cell subsets that correlate with reduced *Plasmodium falciparum* parasitemia and increased antibody dependent cellular cytotoxicity against opsonized infected RBCs. **G. Hart, T. Tran, J. Theorell, G. Arora, P. Crompton, Y. Bryceson and E. Long.** NIAID, NIH, Univ. of Minnesota, Indiana Univ. and Karolinska Inst., Sweden.
- INC.505 **168.18** Prenatal smoke exposure exacerbates lung inflammatory response by modulating neutrophil infiltration to the lungs after RSV infection. **N. Cheemarla, S. Naidu and M. Guerrero-Plata.** Louisiana State Univ., Baton Rouge.

169. INNATE IMMUNE SENSING AND SIGNALING

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- INM.506 **169.1** NOD2-mediated downregulation of the TLR pathways contributes to protection against colitis and colorectal tumorigenesis. **S.M. Udden, L. Peng and H. Zaki.** Univ. of Texas Southwestern Med. Ctr.
- INM.507 **169.2** Maternal immune activation induced by lipopolysaccharide triggers response inflammatory, oxidative damage and damage to blood brain barrier integrity and placental barrier in Wistar rats pregnant and fetus. **L.R. Simões, J. Generoso, G. Sangiogo, C. Faller, G.Z. Réus, A.I. Zugno, F. Petronilho, G. Scaini, V.V. Giridharan and T. Barichello.** Universidade do Extremo Sul Catarinense, Brazil, Universidade do Sul Catarinense, Brazil and The Univ. of Texas Hlth. Sci. Ctr., Houston.
- INM.508 **169.3** RNA editing is required for innate immune homeostasis through inhibiting cytosolic RNA receptor MDA-5 activated by cellular endogenous RNAs. **Q.W. Wang, X. Li, R. Qi, W. Zhang, P. Zheng and T. Billiar.** Univ. of Pittsburgh Sch. of Med., Henan Provincial People's Hosp., China, Zhengzhou Univ. 5th Hosp., China and Univ. of Pittsburgh Med. Ctr.
- INM.509 **169.4** TLR3 of murine astrocytes is cleaved into several forms upon stimulation of cells with synthetic dsRNA. **M. Mielcarska, M. Bossowska-Nowicka, K. Gregorczyk, Z. Wyzewski and F. Toka.** Fac. of Vet. Med., Warsaw Univ. of Life Sci., Poland and Ross Univ. Sch. of Vet. Med., St. Kitts and Nevis.
- INM.510 **169.5** The scaffolding protein IQGAP1 interacts with Nucleotide Binding Domain Leucine Rich Repeat CARD containing protein (NLRC3) and inhibits type I interferon production. **B. Davis, A. Tocker, E. Durocher, S. Talento, K. Trieschman, A. Rechnitzer, K. Jacob and D. Roberts.** Franklin and Marshall Col.
- INM.511 **169.6** Differential signaling through TLR7 or TLR8 determines the phenotype of human monocytes during RNA virus infection. **M. Dominguez-Villar, M. de Marcken and K. Dhaliwal.** Yale Sch. of Med. and Yale Univ.
- INM.512 **169.7** Type I and II IFNs differentially regulate IFNGR1 to tune IFN γ responsiveness in myeloid cells. **W. Crisler, E. Eshleman and L. Lenz.** Univ. of Colorado Sch. of Med.
- INM.513 **169.8** STAT reporter cell line systems as a tool for cancer therapeutic target screening. **H. Lee, G. Singh and S. Singh.** Abeomics.
- INM.514 **169.9** PAMP-induced monoubiquitination of PRR-associated kinase BIK1 by an E3 ligase LUCKY positively regulates plant innate immunity. **X. Ma, J. Peng, L. Shan and P. He.** Texas A&M Univ. and St. Jude Children's Res. Hosp.
- INM.515 **169.10** TRIM29 suppresses the innate immune response to RNA virus. **J. Xing, A. Zhang, L. Minze, X.C. Li and Z. Zhang.** Houston Methodist Res. Inst. and Sun Yat-sen Univ. Cancer Ctr., China.
- INM.516 **169.11** Oxidative stress enhances mitochondrial DNA-dependent type I interferon responses. **Y. Lei, C. Martinez and P. West.** Texas A&M Hlth. Sci. Ctr.
- INM.517 **169.12** Nucleic acid sensing in the cytoplasm of C2C12 cells directly after plasmid DNA electroporation. **N. Semenova, K. Znidar, M. Bosnjak, M. Cemazar and L. Heller.** Frank Reidy Res. Ctr. for Bioelectrics, Old Dominion Univ., Fac. of Hlth. Sci., Univ. Of Primorska, Slovenia, Inst. of Oncology, Slovenia and Sch. of Med. Diagnostic and Translational Sci., Old Dominion Univ.
- INM.518 **169.13** CX43 is essential for optimal cGAS function during cytosolic DNA-sensing. **U. Nagarajan, Y. Zhang, W. Bodnar, A. Kiatthanapaiboon, R. Hagan, C. O'Connell and M. Tripathy.** Univ. of North Carolina, Chapel Hill.
- INM.519 **169.14** Defining how mitochondrial DNA stress regulates innate immune responses. **C. Martinez, Y. Lei and P. West.** Texas A&M Hlth. Sci. Ctr.
- INM.520 **169.15** Protein kinase C dependent dendritic cell differentiation requires the ERK and NF κ B pathways. **C. Chavel and K. Lee.** Roswell Park Cancer Inst.
- INM.521 **169.16** LRRK2 is required for macrophage homeostasis and the control of type I IFN. **C. Weindel, S. Bell, K. Vail, A. West, K. Patrick and R. Watson.** Texas A&M Hlth. Sci. Ctr.
- INM.522 **169.17** Targeting of Diffuse Large B-cell Lymphomas using MyD88 small molecule inhibitors. **G. Snyder, L. Brown, S. Taylor, C. Faupel, M. Sherman, J. Montague, K. Saikh and Y. Wang.** Univ. of Maryland, Baltimore, Stevenson Univ., Univ. of Maryland, Loyola Univ. Maryland and U.S. Army Med. Res. Inst. of Infectious Dis.
- INM.523 **169.18** CARD19: a mitochondrial caspase recruitment domain protein with a role in regulating pro-inflammatory innate immune responses. **K. Rios, A. Liem, A. Kashyap, S. Maynard, S. Paul and B. Schaefer.** Uniformed Serv. Univ. of the Hlth. Sci.
- INM.524 **169.19** Identification and strategic targeting of key anti-viral defense mechanisms in Natural Killer cells. **E. Sayitoglu, D. Ozkazanc, A. Sarac, A. Parlar, E. Alici, B. Erman, A. Duru and T. Sutlu.** Nova Southeastern Univ., Sabanci Univ., Turkey and Karolinska Inst., Sweden.
- INM.525 **169.20** STING-Dependent Constitutive Interferon Signaling Licenses Macrophages for Necroptosis. **A. Paltorak.** Tufts Univ. Sch. of Med.
- INM.526 **169.21** DUSP4 regulates STING- and RIG-I-mediated signalling in response to virus infection. **Y. Zhang, H. Jiao and S. James.** Natl. Univ. of Singapore, Singapore.

170. REGULATORY MECHANISMS OF INNATE IMMUNE RESPONSES

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- INM.527 **170.1** Stingray venom activates IL-33 producing cardiomyocytes, but not mast cell, to promote acute neutrophil-mediated injury. **C. Silva, J. dos Santos, L. Grund, C. Seibert, E. Marques, A. Soares, V. Quesniaux, B. Ryffel and M. Lopes-Ferreira.** Butantan Inst., Brazil, Federal Univ. of Tocantins, Brazil and Allergy and Lung Inflammation Unit of the Molec. and Experimental Immunology and Neurogenetics, France.

MONDAY—POSTER SESSIONS

- INM.528 **170.2** A systematic approach integrating genetics, computational biology, chemical genomics and gene editing to identify novel targets in the Type I interferon signaling pathway for autoimmune and infectious diseases. **X. Zeng, A. MacNamara, Q. Xie, Q. Lu, W. Hou, Y. Rao, K. Maratuo, C. Rea, H. Madsen and C. Larminie.** GlaxoSmithKline.
- INM.529 **170.3** TRIM32 Ubiquitination of OTULIN Regulates NF- κ B Signaling Pathway. **M. Zhao, L. Wang, K. Song, W. Hao, G. Patil, B. Fu, J. Schwamborn, M. Dorf and S. Li.** Oklahoma State Univ. Ctr. for Vet. Hlth. Sci., Harvard Med. Sch. and Univ. of Luxembourg, Luxembourg.
- INM.530 **170.4** lincRNA-EPS and lincRNA-Cox2 regulate expression of KC, IL-6 and CCL5 in macrophages and mice treated with TLR2 and TLR4 agonists or during *K. pneumoniae* infection, but are dispensable for endotoxin tolerance. **F. Agliano, K. Karlinsey, S. Carpenter and A. Medvedev.** Univ. of Connecticut Hlth. Ctr. and Univ. of California, Santa Cruz.
- INM.531 **170.5** Docosahexaenoic acid as a prophylactic treatment on particle-exposed Balb/c mice. **P. Fletcher, R. Hamilton, J. Pestka and A. Holian.** Univ. of Montana and Michigan State Univ.
- INM.532 **170.6** The Role of Glycogen Metabolism in Glycolytic Reprogramming Required for Dendritic Cell Immune Responses. **E. Amiel and P. Thwe.** Univ. of Vermont.
- INM.533 **170.7** Vasodilator Stimulated Phosphoprotein (VASP)-Mediated Actin Polymerization Drives Natural Killer Cell Granule Convergence. **K. Wilton and D. Billadeau.** Mayo Grad. Sch. and Mayo Clin.
- INM.534 **170.8** Myeloperoxidase Deficiency Attenuates Dietary and Systemic Iron-induced Toxicity. **X. Xiao, P. Saha, B.S. Yeoh and M.V. Kumar.** Pennsylvania State Univ. and Univ. of Toledo
- INM.535 **170.9** Ly49H-dependent IFN γ protein production by NK cells requires cytokine signaling that induces IFN γ mRNA transcription. **S. Piersma, M. Pak-Wittel and W.M. Yokoyama.** Washington Univ. in St. Louis.
- INM.536 **170.10** Amifostine activates Nrf2 by binding to Keap1, suppressing lung inflammation. **M. Joo.** Pusan Natl. Univ., South Korea.
- INM.537 **170.11** Cholinergic signaling in the dorsal motor nucleus regulates systemic inflammatory responses via the vagus nerve. **A. Kressel, T. Tsaava, V. Pavlov, S. Chavan and K. Tracey.** Feinstein Inst. for Med. Res.
- INM.538 **170.12** The histone acetyltransferase MOF promotes macrophage inflammation in diabetic wounds. **A. denDekker, A. Joshi, F. Davis, A. Kimball, A. Boniakowski, M. Schaller, S. Kunkel, B. Moore and K. Gallagher.** Univ. of Michigan.
- INM.539 **170.13** Modulation of Xanthine metabolism ameliorates inflammation and accelerates diabetic wound healing. **A. Joshi, A. Kimball, M. Schaller, A. denDekker, C. Burant, S. Kunkel and K. Gallagher.** Univ. of Michigan.
- INM.540 **170.14** Defensamide, a new synthetic compound, could regulate epidermal innate immunity by stimulating cathelicidin antimicrobial peptide production. **S. Mann and K. Park.** Lehigh Valley Hlth. Network and Univ. of California, San Francisco.
- INM.541 **170.15** Epigallocatechin-3-gallate prevents Non-alcoholic fatty liver disease by modulating liver function, lipid profiles and M1/M2 macrophage polarization. **L. Paglicawan, Y. Du, S. Soomro, S. Baig, K. Vanarsa and C. Mohan.** Univ. of Houston.
- INM.542 **170.16** C-reactive protein is an atheroprotective molecule. **A. Pathak, S. Singh and A. Agrawal.** East Tennessee State Univ.
- INM.543 **170.17** The intracellular target of the antimicrobial peptide thanatin. **K. Jackson and T. Miller-White.** Rollins Col.
- INM.544 **170.18** Nitric oxide dictates the reprogramming of carbon flux during M1 macrophage polarization. **E. Palmieri, W. Baseler, L. Davies, M. Gonzalez-Cotto, B. Ghesquiere, T. Fan, A. Lane, D. Wink and D. McVicar.** NCI, NIH, Univ. of Leuven, Belgium and Univ. of Kentucky
- INM.545 **170.19** mTOR induces lysosome expansion by selective translation of lysosomal transcripts during phagocyte activation. **V. Hipolito, J. Diaz, K. Tandoc, A. Saric, I. Toposiviric and R. Botelho.** Ryerson Univ., Canada and McGill Univ., Canada.
- INM.546 **170.20** Regulatory circuits governing identity and function of human type 1 ILCs. **P. Collins, M. Cella, S. Porter, M. McCullen, M. Colonna and E. Oltz.** Washington Univ. Sch. of Med. in St. Louis and Washington Univ. in St. Louis.
- INM.547 **170.21** Commensal Bacteria Suppress Vitamin A Metabolism in the Intestinal Epithelium to Modulate IL-22 Activity in the Gut. **M. Grizotte-Lake and S. Vaishnav.** Brown Univ.
- INM.548 **170.22** Sympathetic neural control of inflammation by ADRB2-mediated IL-10 secretion. **D. Agac, L. Estrada and J. Farrar.** Univ. of Texas Southwestern Med. Ctr. and St. Jude Children's Res. Hosp.
- INM.549 **170.23** Human NKG2D ligand regulation of Natural Killer cell function and its implications in Cancer and Inflammation. **P. Dhar and J. Wu.** Feinberg Sch. of Med. and Northwestern Univ.
- INM.550 **170.24** Identification of Trim29 as a Key checkpoint inhibitor of natural killer cell functions. **Y. Dou, J. Xing, X. Li and Z. Zhang.** Houston Methodist Res. Inst.
- INM.551 **170.25** Group 3 innate lymphoid cells are absent in DOCK8-defective HIES patients. **A. Eken, F. Okus, T. Patiroglu, S. Erdem, M. Karakukcu, M. Cansever, H. Donmez-Altuntas, H. Canatan, M. Oukka, E. Topal, A. Kiyim, E. Karakoc, A. Metin, I. Reisli, V. Uygun, S. Baris, S. Keles, A. Ozen, G. Karasu and E. Unal.** Erciyes Univ., Turkey, Univ. of Washington, Inonu Univ., Turkey, Marmara Univ., Turkey, Hacettepe Univ., Turkey, Necmettin Erbakan Univ., Turkey, Med. Park Antalya Hosp., Turkey and Med. Park Goztepe Hosp., Turkey.
- INM.552 **170.26** miRNAs regulate the embryonic development of epidermal Langerhans cells and dendritic epidermal T cells. **L. Zhou, Y. Yao and Q. Mi.** Henry Ford Hlth. Syst.
- INM.553 **170.27** Transient Receptor Potential Ankyrin 1 Mediates the Afferent Arm of the Inflammatory Reflex. **H. Silverman, M. Addorisio, T. Tsaava, A. Stiegler, A. Kressel, C. Chin, M. Gunasekaran, V. Pavlov, S. Chavan and K. Tracey.** Feinstein Inst. for Med. Res. and Zucker Sch. of Med. at Hofstra/Northwell.

- INM.554 **170.28** The immune adaptor ADAP plays a pivotal role invariant natural killer T cell functions. **R. Das, T. Giovanni, H. Lee, R. Mack, S. Abdelaziz and R. Griffin.** Michigan State Univ.
- INM.555 **170.29** Isoflavones increase radiation-induced apoptosis and modulate pro-inflammatory signaling in EA.hy926 endothelial cells. **M. Fountain, L. McLellan, A. Cannon and G. Hillman.** Wayne State Univ. Sch. of Med. and Barbara Ann Karmanos Cancer Inst.
- INM.556 **170.30** Gasdermin D exerts anti-inflammatory effects by promoting neutrophil death. **H. Kambara, F. Liu, X. Zhang, P. Liu, B. Bajrami, Y. Teng, L. Zhao, S. Zhou, H. Yu, W. Zhou, L. Silberstein, T. Cheng, M. Han, Y. Xu and H. Luo.** Boston Children's Hosp., Harvard Med. Sch., Peking Union Med. Col., China, Broad Inst. of MIT and Harvard, VA Boston Hlth. Care Syst. and George Mason Univ.
- 171. LYMPHOCYTE ACTIVATION, DIFFERENTIATION, AND REGULATION**
- Poster Session**
- MON. 2:30 PM—EXHIBIT/POSTER HALL
- LYM.558 **171.1** Foreign antigen-specific Foxp3+ regulatory T cells expand with immunization and limit Th1 polarization by Foxp3- conventional cells specific for the same antigen. **P. Krueger and M. Jenkins.** Univ. of Minnesota.
- LYM.559 **171.2** TCR affinity influences helper T cell differentiation by biasing dendritic cell interactions. **D. Kotov, J. Mitchell, T. Pengo, J. Kotov, C. Ruedl, S.S. Way, R. Langlois, B. Fife and M. Jenkins.** Univ. of Minnesota, Nanyang Technological Univ., Singapore, Cincinnati Children's Hosp. Med. Ctr. and Univ. of Minnesota Med. Sch.
- LYM.600 **171.3** Salt-Inducible kinases are critical regulators of terminal B-cell differentiation. **E. Robinson, M. Care, R. Tooze and G. Doody.** Univ. of Leeds, United Kingdom.
- LYM.601 **171.4** Antigen binding to B cells activates a metabolic program that in the absence of a second signal leads to mitochondrial dysfunction and cell death. **M. Akkaya, A. Roesler, J. Traba, P. Miozzo, B. Akkaya, B. Theall, H. Sohn, M. Pena, M. Sack and S. Pierce.** NIAID, NIH and NHLBI, NIH.
- LYM.602 **171.5** Progressive upregulation of oxidative metabolism facilitates plasmablast differentiation to a T-independent antigen. **M. Price, D. Patterson, C. Scharer and J. Boss.** Emory Univ. and Emory Univ. Sch. of Med.
- LYM.603 **171.6** Lack of TGF β R signaling confers more mature, activated, and educated phenotypes to NK cells leading to resistance to MCMV infection. **Y. Jang and Y. Laouar.** Univ. of Michigan Med. Sch.
- LYM.604 **171.7** The histone demethylase LSD1 regulates B cell proliferation and plasmablast differentiation. **R. Haines, B. Barwick, P. Majumder, C. Scharer and J. Boss.** Emory Univ.
- LYM.605 **171.8** Defining the mechanism of BATF specificity in Th cell lineages. **Y. Fu and M. Kaplan.** Indiana Univ. Sch. of Med.
- LYM.606 **171.9** Egr2 is required for the activation of the TH17 pathogenetic program. **Y. Gao, Y. Wang, N. Bouladoux, Y. Belkaid and V. Lazarevic.** NCI, NIH and NIAID, NIH.
- LYM.607 **171.10** Role of telomerase expression in T cell differentiation and proliferation. **M. Patrick, N. Cheng, J. Kim, F. Dong, J. An and N. Weng.** NIA, NIH.
- LYM.608 **171.11** CTCF translates IL-2- and α KG-sensitive metabolic changes in T cells into context-dependent differentiation gene programs. **D. Chisolm, D. Savic, A. Moore, A. Ballesteros-Tato, B. Leon-Ruiz, D. Crossman, C. Murre, R. Myers and A. Weinmann.** Univ. of Alabama, Birmingham, St. Jude Children's Res. Hosp., Univ. of California, San Diego and HudsonAlpha Inst. for Biotech.
- LYM.609 **171.12** Sostdc1 regulates natural killer cell maturation and cytotoxicity. **A. Millan, S. Elizaldi, E. Lee, D. Muruges, G. Loots and J. Manilay.** Univ. of California, Merced and Lawrence Livermore Natl. Lab.
- LYM.610 **171.13** Suppressed plasmablast responses in febrile infants, including children with Kawasaki disease. **J. Hoffman, M. Martin, B. Wrotniak and M. Hicar.** Univ. at Buffalo State Univ. of New York.
- LYM.611 **171.14** An IL-2/STAT5/Eos regulatory axis promotes Th1 differentiation. **B. Sreekumar, K. Read, M. Powell, C. Baker, J. Zafar, E. Martin, I. Allen and K. Oestreich.** Virginia Tech Carilion Sch. of Med. and Res. Inst., Virginia Tech and Virginia-Maryland Regional Col. of Vet. Med.
- LYM.612 **171.15** Formation of super-enhancers is critical in pathogenic Th9 differentiation and airway inflammation. **X. Xiao, Y. Fan, J. Li, X. Zhang, X. Lou, Y. Dou, X. Shi, P. Lan, Y. Xiao, L. Minze and X. Li.** Immunobiology & Transplant Sci. Ctr., Houston Methodist Hosp., Texas Med. Ctr., Houston, Houston Methodist Res. Inst., Immunobiology & Transplant Sci. Ctr., Houston Methodist Hosp.
- LYM.613 **171.16** Mitochondrial dynamics and metabolic programming in Th17 cell fate. **C. Decker, C. Choi, S. Cave and J. Hernandez.** Keck Grad. Inst. Sch. of Applied Life Sci., Pitzer Col. and Keck Grad. Inst. Sch. of Pharmacy.
- LYM.614 **171.17** Negative costimulation constrains T cell differentiation. **S. Wei, R. Sharma, N. Anang, J. Levine, Y. Zhao, J. Wang, D. Pe'er and J. Allison.** Univ. of Texas, MD Anderson Cancer Ctr. and Mem. Sloan Kettering Cancer Ctr.
- LYM.615 **171.18** Differing effects of TGF β family members in the generation of IL-9-secreting T cells. **B. Ulrich and M. Kaplan.** Indiana Univ. Sch. of Med.
- LYM.616 **171.19** An essential role of transcription factors PU.1 and IRF8 in follicular B cell development and the germinal center response. **H. Wang, S. Jain, J. Sun, A. Kovalchuk and H. Morse.** NIAID, NIH.
- LYM.617 **171.20** Differential surface phenotype and context-dependent reactivity of functionally diverse NKT cells. **G. Cameron and D. Godfrey.** The Peter Doherty Inst. for Infection and Immunity, Univ. Melbourne, Australia.
- LYM.618 **171.21** Phosphatase PTEN-mediated blockade of IL-2 production is essential for Th17 cell differentiation. **H.S. Kim, H. Sohn and G.R. Lee.** Sogang Univ., South Korea.

MONDAY—POSTER SESSIONS

172. INFLAMMATORY MEDIATORS AT MUCOSAL SURFACES

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- MUC.620 **172.1** The TNF superfamily cytokine receptor DR3 modulates innate immune responses in the gut and protects against IBD. **F. Meylan, T. Farley, A. Richard, N. Richoz, M. Geuking, I. Fuss, K. McCoy and R. Siegel.** NIAMS, NIH, Univ. of Calgary, Canada and NIAID, NIH.
- MUC.621 **172.2** Lymphotoxin receptor beta expression by neutrophils is a critical regulator of colitis pathogenesis. **D. Giles, S. Zahner, E. van der Gracht, V. Morris, A. Tumanov, Z. Mikulski and M. Kronenberg.** La Jolla Inst. for Allergy and Immunology and Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- MUC.622 **172.3** Deficiency of neutrophil extracellular traps increases susceptibility to colonic inflammation. **V. Singh, B.S. Yeoh, X. Xiao, Y. Wang and M. Vijay-Kumar.** Univ. of Toledo and Pennsylvania State Univ.
- MUC.623 **172.4** TRIM34 attenuates colon inflammation and tumorigenesis by promoting Muc2 exocytosis from goblet cells. **B. Sun.** Shanghai Inst. of Biochemistry and Cell Bio., China
- MUC.624 **172.5** CRTAM shapes the microbiota and enhances the severity of gut infection. **A. Perez-Lopez, S. Nuccio, I. Ushach, A. Zlotnik and M. Raffatellu.** Univ. of California, San Diego and Univ. of California, Irvine.
- MUC.625 **172.6** Intestinal epithelium intrinsic RAR α signaling regulates gut barrier integrity via IL-18. **N. Iyer and S. Vaishnava.** Brown Univ.
- MUC.626 **172.7** Intestine-specific CCR10⁺ plasma cells regulate migration of intestinal regulatory T cells. **L. Zhao, S. Hu, M. Davila and N. Xiong.** Pennsylvania State Univ. and Albert Einstein Col. of Med.
- MUC.627 **172.8** Aggravated gut inflammation in mice lacking the taste signaling protein α -gustducin. **H. Wang, P. Feng, J. Chai, K. Redding, R. Margolskee and L. Huang.** Monell Chem. Senses Ctr., Thomas Jefferson Univ., Col. of Life Sci. and Zhejiang Univ., China.
- MUC.628 **172.9** In T_H17-associated ileal inflammation, IFN γ and IL-17A support mucosal homeostasis and modulate self-tolerance. **C.D. Ciantis, J. Jeschke, C. Mayne, J. Ziegelbauer, S. Singh, M. Suchi, Y. Iwakura, W. Drobyski, N. Salzman and C. Williams.** Med. Col. of Wisconsin and Tokyo Univ. of Sci., Japan.
- MUC.629 **172.10** The plasma kallikrein-kininogen pathway is critical in the pathogenesis of colitis in mice. **Y. Wu.** Soochow Univ., China.
- MUC.630 **172.11** Temporal proteomic analysis of Ultrasound treatment in acute Dextran Sulfate Sodium induced colitis. **N.S. Nunes, S. Burks, A. Paz and J. Frank.** Clin. Ctr., NIH, UFRGS, Brazil and NIBIB, NIH.

- MUC.631 **172.12** Enterohepatic *Helicobacter* species modulate severity of DSS-induced colitis but do not prevent amelioration by indole-3-carbinol. **R. Alkarkoushi, U. Singh, I. Chatzistamou, M. Bam, P. Nagarkatti, M. Nagarkatti and T. Testerman.** Univ. of South Carolina Sch. of Med.
- MUC.632 **172.13** Orally administered poly- γ -glutamic acid enhances mucosal immune responses through production of intestinal chemokines and activation of mucosal dendritic cells. **J. Yang, E. Kim, J. Kim and H. Poo.** Korea Res. Inst. of Bioscience and Biotechnology, South Korea.
- MUC.633 **172.14** CD8⁺ T-cell effector molecules are differentially expressed in blood and gastrointestinal mucosa in chronic HIV-1 infection. **B. Shacklett, B. Kiniry, M. Somsouk, P. Hunt and S. Deeks.** Univ. of California, Davis, Sch. of Med. and Univ. of California, San Francisco.
- MUC.634 **172.15** Increased levels of Th1-inducing cytokines are detected in cervical secretions of women with *Chlamydia trachomatis* infection limited to their cervix. **D. Lee, W. Zhong, L. Dong, A. Russell, C. O'Connell, H. Wiesenfeld, S. Hillier, G. Sempowski, X. Zheng and T. Darville.** Univ. of North Carolina, Chapel Hill, Univ. of Pittsburgh and Duke Univ.
- MUC.635 **172.16** Unilateral corneal nerve cutting induces bilateral dry eye disease in a murine model. **K.W. Kim, H.K. Lee, J.S. Ryu, H.J. Jeong, C.H. Yoon and M.K. Kim.** Seoul Natl. Univ. Hosp., South Korea and Biomed. Res. Inst.
- MUC.636 **172.17** Ocular exocrine glands are infected, harbor T cells, and express select cytokines and chemokines following corneal HSV-1 infection. **M. Montgomery and D. Carr.** Univ. of Oklahoma Hlth. Sci. Ctr.
- MUC.637 **172.18** Development and Validation of Fit-for-Purpose Mouse Th17-Related and Cytokine Multiplex V-PLEX Assays. **J. Buhman, P. Krai, L. Fred, C. Kenten, L. Manandhar, L. Sch.s, V. Chitnis, S. Harkins, D. Stewart and J. Wohlstadter.** Mesoscale Discovery.
- MUC.638 **172.19** Chronic skeletal muscle infection impairs immune-mediated myogenesis. **R. Jin, J. Warunek and E. Wohlfert.** Univ. at Buffalo, State Univ. of New York.

173. REGULATION OF IMMUNITY IN THE SKIN AND LUNG MUCOSA

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- MUC.639 **173.1** Identification of functionally unique CD4 T cells that are the circulating counterparts of epidermal resident memory T cells. **P. Morawski, T. Duhen, M. Klicznik, B. Hoellbacher, S. Motley, D. Campbell and I. Gratz.** Benaroya Res. Inst., Univ. of Salzburg, Austria, Univ. of Washington and Paracelsus Med. Univ., Austria.
- MUC.640 **173.2** WITHDRAWN.
- MUC.641 **173.3** A novel function of CCL27 in the localization of skin-homing CCR10⁺ lymphocytes. **M. Davila and N. Xiong.** Pennsylvania State Univ.

- MUC.642 **173.4** T Cell-Directed IL-17 production by Lung Granular $\gamma\delta$ T cells is Coordinated by a Novel IL-2 and IL-1 β Circuit. **A. Menoret, J. Buturla, M. Xu, J. Svedova, S. Kumar, V. Rathinam and A. Vella.** Univ. of Connecticut Hlth. Ctr. and Inst. for Sys. Genomics, Univ. of Connecticut Hlth. Ctr.
- MUC.643 **173.5** Generation of specialized CD4 subsets: T_{FH} and ThCTL, requires signals from local antigen & infection during the effector phase. **P.D. Devarajan, A. Vong, C. Castonguay, B. Bautista and S. Swain.** Univ. of Massachusetts Med. Sch.
- MUC.644 **173.6** Cellular stress mediated by the local microenvironment regulates the homeostatic loss of tissue-resident memory CD8 T cells in different compartments of the lung. **S. Hayward, C. Scharer, S. Takamura, G. Kumar, J. Boss and J. Kohlmeier.** Emory Univ. Sch. of Med. and Kindai Univ. Fac. of Med.
- MUC.645 **173.7** Lung tissue resident memory T cells coordinate effector T cell dynamics during the protective recall response to influenza. **D. Paik and D. Farber.** Columbia Univ. Med. Ctr.
- MUC.646 **173.8** The natural suppression of respiratory CD8 T cell memory by monocyte-derived dendritic cells (moDC). **K. Reagin, C. Slade and K. Klonowski.** Univ. of Georgia.
- MUC.647 **173.9** Protection from lethal Flu infections: lessons from a systemic lupus mouse model. **G. Abboud, S. Choi, A. Titov, W. Li and L. Morel.** Univ. of Florida.
- MUC.648 **173.10** Gut microbiota enhances neutrophil resolution in immunocompromised hosts to improve response to pneumococcal pneumonia. **K. Felix, I. Jaimez, T. Nguyen, H. Ma, W. Raslan, C. Klinger, K. Doyle and H. Wu.** Univ. of Arizona.
- MUC.649 **173.11** Generation of IL-3 secreting T helper cells is associated with microbial challenge at barriers and IL-1 family of cytokines. **S.K. Velayudhan, M. Goldberg, N. Saini, T. Ng, C. Johndrow, A. Johnson and S. Porcelli.** Columbia Univ. Med. Ctr., Univ. of Minnesota and Albert Einstein Col. of Med.
- MUC.650 **173.12** Alveolar and monocyte-derived macrophages differentially engage antibacterial programs during adaptive immunity to *Mycobacterium tuberculosis*. **J. Delahaye, C. Plumlee, C. Plaisier, N. Baliga, D. Sherman and K. Urdahl.** Ctr. for Infectious Dis. Res., Univ. of Washington, Arizona State Univ. and Inst. for Syst. Biol.
- MUC.651 **173.13** *Pseudomonas aeruginosa*-induced lung epithelial production of IL-8 contributes to PMN sub-mucosa recruitment but not trans-epithelial migration in vitro. **B. Lanter, A. Eaton, K. Gipson, L. Yonker and B. Hurley.** Harvard Med. Sch. and Massachusetts Gen. Hosp.
- MUC.652 **173.14** Ablation of adaptive immune responses facilitates increased bacterial clearance in murine model of defective mucociliary clearance. **B. Lewis, S. Patial and Y. Saini.** Louisiana State Univ. Sch. of Vet. Med.
- MUC.653 **173.15** The immunological role of crypt olfactory neurons against neurotropic viruses in teleost fish. **A. Sepahi, A. Kraus, J. Galindo-Villegas, C. Kelly, D. Garcia-Moreno, V. Mulero, M.H. Pau and I. Salinas.** Univ. of New Mexico, Univ. of Murcia, Spain and Texas State Univ.
- MUC.654 **173.16** Early, in situ re-activation of lung memory T cells drives chronic lung inflammation. **D. Turner, N. Tanna and J. Barahona.** Williams Col.
- MUC.655 **173.17** IL-5 signaling protects mice against mortality from acute lung injury. **C. Hrusch, K. Mills, P. Krishack, D. Decker, K. Blaine and A. Sperling.** Univ. of Chicago.
- MUC.656 **173.18** The catalytic subunit of DNA-PK has a unique function in inflammation independently of Ku70 and DNA repair: a new opportunity to target the enzyme without interfering with DNA repair. **M. Ghonim, K. Pyakurel, H. Luu, S. Okpechi, J. Ju and H. Boulares.** Louisiana State Univ. Hlth. Sci. Ctr. and Al-Azhar Univ., Egypt.
- MUC.657 **173.19** Type 2 diabetes mellitus induces TNFR1 mediated necroptotic cell death of mice alveolar macrophages infected with *Mycobacterium tuberculosis*. **R.K. Radhakrishnan, D. Tripathi, R.S. Thandi, P. Paidipally and R. Vankayalapati.** Univ. of Texas Hlth. Sci. Ctr., Tyler.
- MUC.658 **173.20** Kupffer cells restricts *Mycobacterium tuberculosis* growth better than alveolar macrophages. **R.S. Thandi, D. Tripathi, R.K. Radhakrishnan, P. Paidipally and R. Vankayalapati.** Univ. of Texas Hlth. Sci. Ctr., Tyler.

174. TECHNOLOGICAL INNOVATIONS II

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- TECH.900 **174.1** Identification of Low-Abundance Urinary Biomarkers for Lupus Nephritis Utilizing Electrochemiluminescence-Based Multiplexed Assays. **S. Stanley, C. Mok, K. Vanarsa, D. Habazi, R. Saxena and C. Mohan.** Univ. of Houston, Tuen Mun Hosp., China and Univ. of Texas Southwestern Med. Ctr.
- TECH.901 **174.2** Functional Interrogation and Mining of Natively-Paired Human V_H:V_L Antibody Repertoires. **B. DeKosky, B. Wang, M. Timm, J. Lee, E. Normandin, J. Misasi, R. Kong, J. McDaniel, G. Delidakis, K. Leigh, K. Leigh, T. Niezold, A. Ploquin, E. Viox, A. Fahad, A. Cagigi, K. Leung, E.S. Yang, W. Kong, W. Voss, A. Schmidt, M.A. Moody, D. Ambrozak, A. Henry, F. Laboune, J. Ledgerwood, B. Graham, M. Connors, D. Douek, N. Sullivan, A. Ellington and G. Georgiou.** Univ. of Kansas, NIAID, NIH, Univ. of Texas, Austin, Boston Children's Hosp., Harvard Med. Sch. and Duke Univ. Sch. of Med.
- TECH.902 **174.3** Stem cell, low-energy shock wave and phosphodiesterase type 5 inhibitor therapy to promote erectile function recovery in a rat pelvic neurovascular trauma model. **A. Hertz, E. George, A. Reed-Maldonado, T. Brand and S. Salgar.** Madigan Army Med. Ctr., Tacoma.

MONDAY—POSTER SESSIONS

- TECH.903 **174.4** A novel multicolor stimulated emission depletion (STED) microscopy strategy to visualize mitochondrial morphology in lymphocytes. **A. Roesler, P. Miozzo, M. Smelkinson, B. Akkaya, J. Brzostowski, J. Kabat, B. Theall, J. Traba, S. Pierce and M. Akkaya.** NIAID, NIH, Duke Univ. Sch. of Med. and NHLBI, NIH.
- TECH.904 **174.5** High throughput screening of IRAK4 small molecule inhibitors in TLR ligand stimulated whole blood. **S. Sujatha-Bhaskar, Z. Huang, G. Francis, C. Bryan, A. Zarrin, J. Kiefer, N. Ghilardi and H. Brightbill.** Genentech, Inc.
- TECH.905 **174.6** Phosphoproteomic Analysis Reveals New SLP76 and PLC γ 1 Feedback Pathways That Regulate Lck in T Cells. **A. Salomon, J. Belmont, T. Gu and Q. Ji.** Brown Univ.
- TECH.906 **174.7** Depletion of Dead Cells from Primary Tissue in 6 Minutes. **N. MacDonald, C. Barr, K. McQuenn, S. Woodside, T. Thomas and A. Eaves.** STEMCELL Technol., Inc., Canada and BC Cancer Agency, Canada.
- TECH.907 **174.8** REAlease™ Immunomagnetic Separation Technol. with reversible labeling for positive selection of leukocytes. **C. Evaristo, P. Steinbrück, J. Pankratz, Z. Yu and C. Dose.** Miltenyi Biotec, Germany.
- TECH.908 **174.9** Isolation of functionally unaffected cells Straight From buffy coat, LRSC or Leukopak. **G. Winkels, M. Schlemminger, S. Weber-Lohmann, M. Kolnik, Z. Yu and S. Höher-Peters.** Miltenyi Biotec, Germany and Miltenyi Biotec Inc.
- TECH.909 **174.10** Toll-like receptor-4-interacting surfactant protein-A-derived peptide reduces inflammation in a mouse model of intratracheal lipopolysaccharide challenge. **S. Awasthi, G. Kumar, J. Xie, J. Beierle, V. Awasthi, V. Ramani, B. Singh, M. Breshears and S. Kosanke.** Univ. of Oklahoma Hlth. Sci. Ctr., Oklahoma Med. Res. Fndn. and Oklahoma State Univ.
- TECH.910 **174.11** Immortalization of splenic and peripheral blood macrophages using a multi-cistronic v-Raf/v-Myc lentivirus. **C. Beauregard, C. Broder and B. Schaefer.** Uniformed Serv. Univ. of the Hlth. Sci.
- TECH.911 **174.12** Versatile system for single cell acquisition and analysis. **Z. Ma, L. Kudo and S. Karsten.** NeuroInDx, Inc.
- TECH.912 **174.13** Rapid cell fractionation of whole immune organs using a novel microfluidic device. **I. Pradhan, H. Cohen, S. Wong-Noonan, D. Wells, R. Lakomy, A. Tajima, S. Bai, W. Rudert, B. Boehm, M. Trucco, H. Hou and Y. Fan.** Allegheny Hlth. Network and Nanyang Technological Univ., Singapore.
- TECH.913 **174.14** Using machine learning and RNA-seq to increase the accuracy and decrease the invasiveness of diagnosing eosinophilic esophagitis. **E. Lin, S. Flygare, K. Peterson, F. Clayton and M. Yandell.** Univ. of Utah Sch. of Med. and Univ. of Utah
- TECH.914 **174.15** Measuring total IFN α at fg/mL concentrations in human blood. **J. Lambert, E. Ferrell, J. Wickman, L. Chang, D. Hanlon, J. Johnson and G. Kiesel.** Quanterix and PBL Assay Sci.
- TECH.915 **174.16** Comparison of two platforms for the measurement of fg/mL concentrations of protein biomarkers using single molecule arrays and digital ELISA: the benchtop reader Quanterix SR-X™, and the fully automated analyzer HD-1™. **J. Lambert, A. Vonk, M. Mendes, L. Song, D. Svancara, S. Baig, D. Rissin, S. Nie, D. Hanlon, P. Patel, D. Duffy, D. Shan, L. Chang and J. Johnson.** Quanterix.
- TECH.916 **174.17** Immune Modulation in Children; A South African Perspective. **P. Fourie.** Stellenbosch Univ., South Africa.
- TECH.917 **174.18** A novel high-throughput method for quantification of microbiota distribution at the single cell level using high dynamic range DNA barcoding. **K. Shiroguchi, J. Jin, T. Takeuchi, E. Miyauchi and H. Ohno.** RIKEN, Japan and PRESTO JST, Japan.
- TECH.918 **174.19** Standardized oligo barcode antibody conjugates, and Veri-Cells™ PBMC for multiplex immunophenotyping and CITE-Seq. **C. Li, B. Yeung, X. Zhao, A. Divekar, C. Monell and X. Yang.** BioLegend, Inc.
- TECH.919 **174.20** Tetracysteine tagged OVA₍₃₂₃₋₃₃₉₎ peptide as a novel tool for visualizing peptide-MHCII complexes in primary mouse cells. **J. A. Souza, M. Akkaya, R. Kamdar, O. Kamenyeva, E. Shevach and B. Akkaya.** NIAID, NIH.
- TECH.920 **174.21** Enhanced cell growth with physiologically relevant media supplements. **L. Naser and A. Master.** Nucleus Biologics.
- TECH.921 **174.22** Centrifuge-less red blood cell lysis and immunostaining of whole blood for flow cytometry using DA-Cell washer and plate. **N. Kim and M. Lye.** Curiox Biosystems.
- TECH.922 **174.23** Analytical Validation of Digital Spatial Profiling - a novel approach for multiplexed characterization of protein distribution and abundance in FFPE tissue sections. **C. Merritt, K. Barker, H. Metz, L. Dennis, P. Webster and J. Beechem.** Nanostring Technologies.
- TECH.923 **174.24** Real-time detection of LPS induced cytokine-storm using Vium Smart Housing. **C. Ichim, J. Mechanic, P. Shah, C. Maraganore, D. Hutto and L. Schaevitz.** Vium, Inc.
- TECH.924 **174.25** Serum IGFBP2, IGFBP4, and sTNFR2 are predictive of concurrent clinical and histological nephritis in SLE. **A. Haque, S. Soliman, K. Vanarsa, S. Stanley, R. Saxena and C. Mohan.** Univ. of Houston and Univ. of Texas Southwestern.
- TECH.925 **174.26** Biomarker prediction to anti-PD-1 immunotherapy by using high dimensional single cell analysis. **C. Krieg, M. Nowicka, S. Guglietta, S. Schindler, F. Hartmann, L. Weber, R. Dummer, M. Robinson, M. Levesque and B. Becher.** Med. Univ. of South Carolina Univ. of Zurich, Switzerland, European Inst. of Oncology, Italy, Univ. Hosp. Zurich, Switzerland and Stanford Univ.
- TECH.926 **174.27** Chemical screening based machine learning platform to identify MDSC-specific gene programs and immunomodulators to target solid tumor microenvironments. **G. Chopra, E. Kischuk, J. Majumder, J. Fine, T. Lantz and T. Ratliff.** Purdue Univ. and Indiana Univ.
- TECH.927 **174.28** Tracking Plasmodium Invasion of Red Blood Cells by Simplified Flow Cytometry. **K.T. Tran, J. Mulry, B. Greco and K. Tyagarajan.** Millipore Sigma, Merck Global Hlth. Inst., Merck Global Hlth. Unit and Merck Biopharmaceutical Res.& Develop., Switzerland.

- TECH.928 **174.29** A high-resolution, genome-scale promoter interactome in human T follicular helper cells implicates novel causal genes at SLE GWAS loci. **A. Wells, M. Johnson, E. Manduchi, C. Le Coz, M. Leonard, S. Lu, K. Hodge, N. Romberg, A. Chesi and S. Grant.** Univ. of Pennsylvania.
- TECH.929 **174.30** New Flow-Based Multiplex Assays for Simultaneous Quantification of 13 Human or Mouse Macrophage/Microglia Related Cytokines. **B. Sun, P. Rughwani, K. Chow, J. Lehmann and S. Ji.** BioLegend, Inc.
- TECH.930 **174.31** Robust prediction of clinical outcomes using cytometry data. **Z. Hu, B. Glicksberg and A. Butte.** Univ. of California, San Francisco.
- TECH.931 **174.32** Fluorescent hypoxia probe for flow cytometry. **Q. Low, V. Calderon, A. Chen, Y. Hu, B. Mandavilli, X. Wang and M. O'Grady.** Thermo Fisher Scientific.
- TECH.932 **174.33** Highly robust digital gene expression profiling of 96 gene targets for IO Lymphocyte and Myeloid activity in 96 Colorectal FFPE samples without any enzyme (RT or amplification) reactions. **C. Merritt, A. Kharkia and G. Ong.** NanoString Technologies.
- TECH.933 **174.34** Intravitreal Administration of Docosahexaenoic Acid derived Neuroprotectin D1 promotes Photoreceptor Cell Survival in A Murine Model of Retinal Degeneration. **Y. Gao and Z. Yin.** Southwest Hosp., China.
- TECH.934 **174.35** Sensitive detection of human drug-induced liver injury by measurement of microRNA-122 using single molecule arrays. **J. Lambert, D. Rissin and D. Duffy.** Quanterix.
- TECH.935 **174.36** Identification of paired heavy and light chains from single B-cells from immunized Malian adults with rapid functional confirmation using iPair-BCR™, NGS, and iScreen™. **X. Hou, M. Byrne-Steele, W. Pan, B. Brown, M. Sanders, M. Eisenhower, C. Coelho, P. Hurtado, Y. Doritchamou, K. Highsmith, J. Taylor, A. Schwartz, B. Morrison, O. Muratova, I. Sagara, O. Doumbo, C. Anderson, M. Fried, P. Duffy and J. Han.** iRepertoire, NIAID, NIH, Fred Hutchinson Cancer Res. Ctr. and Malaria Res. and Training Ctr., Mali.
- TECH.936 **174.37** Sample sparing platform for microscopy shows that CD45RB ligation increases Treg sensitivity to activation signals in vitro. **J. Lee, J. Lee and L. Kam.** Columbia Univ.
- TECH.937 **174.38** Fast and easy immunomagnetic isolation of untouched human naïve T cells in less than 15 minutes. **C. Ewen, N. MacDonald, S. de Jong, A. Kokaji, S. Woodside, A. Eaves and T. Thomas.** STEMCELL Technol., Inc., Canada, Terry Fox Lab. and BC Cancer Agency, Canada.
- TECH.938 **174.39** The ProQuantum immunoassay platform offers high performance in a simplified workflow for low-level measurement of cytokines in human and mouse sera/plasma. **D. Bourdon, M. Alohal, L. Meng, L. Le, A. Freeman and J. Hu.** Thermo Fisher Scientific.
- TECH.939 **174.40** Dynamic live cell imaging of immune cell interactions using microfluidics cell trap. **J. Park, C. Chen, V. Yeh and R. Booth.** EMD Millipore Corp.
- TECH.940 **174.41** Ultrasensitive Quantification of Inflammatory Biomarkers in Breast Cancer Survivors. **N. Osier, C. Slote, E. McGreevy and A. Henneghan.** Univ. of Texas, Austin and MD Anderson Cancer Ctr.
- TECH.941 **174.42** T lymphocyte immunophenotyping: 13-color flow cytometry panel design using the NovoCyte flow cytometer. **L. Jachimowicz, P. Ye, G. Guenther and Y. Abassi.** ACEA Biosci.
- TECH.942 **174.43** Profiling of soluble immune checkpoint proteins as potential non-invasive biomarkers in colorectal cancer and sepsis. **D. Pepin, M. Godeny, D. Russell, P. Mehta and W. Lie.** EMD Millipore Corp.
- TECH.943 **174.44** Finding novel genomic variations of immunoglobulin loci. **Y. Safonova and P. Pevzner.** Univ. of California, San Diego.

175. TREATMENT STRATEGIES IN SYSTEMIC AUTOIMMUNITY

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- Ther.944 **175.1** Enforcing anergy of autoreactive B cells through inhibition of the PI3K pathway. **S. Franks, A. Getahun and J. Cambier.** Univ. of Colorado Sch. of Med.
- Ther.945 **175.2** A(1-7) reduces pathologies associated with SLE in MRL-*lpr* mice. **M. Soto, K. Gaffney, S. Jadhav and K. Rodgers.** Univ. of Arizona Col. of Med.
- Ther.946 **175.3** Targeting Dendritic Cells with Alpha 1 Antitrypsin has Therapeutic Potentials in Lupus. **A. Elshikha, Y. Yuan, Y. Lu, M. Chen, M. Akbar, H. Plate, L. Zeumer, L. Morel and S. Song.** Univ. of Florida.
- Ther.947 **175.4** BTK inhibition ameliorates renal, skin, and brain disease in a spontaneous murine model of systemic lupus erythematosus. **S. Chalmers, J. Wen, J. Doerner, A. Stock, D. Webb, L. Herlitz, T. Bosanac, G. Nabozny, J. Fine, E. Klein, M. Ramanujam and C. Putterman.** Albert Einstein Col. of Med., Boehringer Ingelheim Pharmaceuticals, Inc. and Cleveland Clin.
- Ther.948 **175.5** Sex hormones and gender influence the expression and function of regulatory T cells differentially in SLE patients. **R. Singh and B. Hahn.** VA Greater Los Angeles Healthcare Syst., UCLA and Univ. of California, Los Angeles.
- Ther.949 **175.6** Apoptotic cell induced, TLR9-dependent AhR activity is a critical driver of tolerance induction and suppression of lupus. **R. Shinde, K. Hezaveh, M.J. Halaby, A. Kloetgen, S. Lamorte, D. Munn, A. Tsigigos, M. Madaio, S. Gabriellsson, J. Wither, D. De Carvalho and T. McGaha.** Princess Margaret Cancer Ctr., Canada, New York Univ. Sch. of Med., Augusta Univ., New York Univ. Sch. of Med., Med. Col. of Georgia, Karolinska Inst., Sweden, Krembil Res. Inst., Canada and Univ. of Toronto, Canada.
- Ther.950 **175.7** siRNA-mediated *c-Rel* knockdown ameliorates collagen-induced arthritis in mice. **Q. Ruan, T. Fan, F. Zhong, R. Liu, Y. Chen and T. Wang.** Inst. of Biomed. and Biotechnology, Shenzhen Inst. of Advanced Technol., Chinese Acad. of Sci., China, Univ. of Chinese Acad. of Sci., China, Perelman Sch. of Med., Univ. of Pennsylvania, Shandong Provincial Key Lab. of Ophthalmology, Shandong Eye Inst. and Shandong Acad. of Med. Sci., China.

MONDAY—POSTER SESSIONS

- Ther.951 **175.8** Protein Kinase D1 deletion ameliorates collagen-induced arthritis. **T. Yoon, H. Cho, J. Stuart and A. Yi.** Univ. of Tennessee Hlth. Sci. Ctr. and Veterans Affairs Med. Ctr.-Memphis.
- Ther.952 **175.9** A Low molecular weight BAFF receptor antagonist inhibits differentiation of human peripheral B cells into plasma blasts/plasma cells in vitro. **K. Yoshimoto, N. Seki, K. Suzuki, K. Sugahara and T. Takeuchi.** Keio Univ. Sch. of Med., Japan and Mitsubishi Tanabe Pharma Corp., Japan.
- Ther.953 **175.10** Immune cells avoid death from immunoproteasome inhibitors by switching to conventional proteasome. **E. Ladi, C. Everett, B. Daniels, M. Huestis, E. Dere, H. Gause, M. Dirk, K. Rajapaksa, S. Staben, H. Purkey, C. Eidschenk, M. Siu and R. Pappu.** Genentech, Inc.
- Ther.954 **175.11** The influence of berberine on co-stimulatory molecule expression and T cell activation. **A. Vita and N. Pullen.** Univ. of Northern Colorado.
- Ther.955 **175.12** Disruption of self-tolerance in autoimmune diseases and therapeutic modulation to restore immune balance. **M. Chakraborty, E. Shashkova, A. Cline-Smith and R. Aurora.** St. Louis Univ.
- Ther.956 **175.13** Quantitative screening of active renal SLE patients' urine for protein biomarkers using kiloplexed glass slide arrays. **S. Soomro, M. Attia, M. Petri and C. Mohan.** Univ. of Houston and Johns Hopkins Univ. Sch. of Med.
- Ther.957 **175.14** Fingolimod ameliorates neuropsychiatric lupus without reducing circulating autoantibodies or brain cytokine expression. **E. Mike and C. Putterman.** Albert Einstein Col. of Med.
- Ther.958 **175.15** PLK1 as a potential therapeutic target of lupus. **T. Wu, Y. Li and C. Mohan.** Univ. of Houston.
- Ther.959 **175.16** Development of a murine model resembling human lupus in mice parasitized with *Trichinella spiralis*. **C. Nevárez-Lechuga, S. Sánchez-Barbosa, C. Landa-Saldívar, C. Wong, C. Wong-Baeza, A. Escobar-Gutiérrez, J. de-la-Rosa-Arana and I. Baeza.** Natl. Polytechnic Inst., Mexico, Instituto de Diagnóstico y Referencia Epidemiológicos, Mexico and Instituto de Diagnóstico y Referencia Epidemiológicos, Mexico.
- Ther.960 **175.17** ALCAM and VCAM-1 as potential urinary biomarkers in Caucasian lupus patients. **D. Habazi, K. Vanarsa, S. Stanley, S. Gokaraju, H. Ding, I. Parodis, I. Gunnarsson and C. Mohan.** Univ. of Houston and Karolinska Inst., Sweden.
- Ther.961 **175.18** Integrative analysis reveals CD38 as a therapeutic target for plasma cell-rich rheumatoid arthritis, pre-rheumatoid arthritis and systemic lupus erythematosus. **S. Cole, A. Walsh, X. Yin, M. Wechalekar, M. Smith, S. Proudman, D. Veale, U. Fearon, C. Pitzalis, C. Chiu, M. Sharp, J. Alvarez, I. Anderson, L. Madakamutil, S. Nagpal and Y. Guo.** Janssen R&D, Flinders Univ., Australia, Royal Adelaide Hosp., Univ. of Adelaide, Australia, Trinity Col., Ireland, St. Vincent's Univ. Hosp., Ireland and Queen Mary Univ. of London, United Kingdom.
- Ther.962 **175.19** The psoriasis therapeutic potential of a novel short laminin peptide C16. **Y.P. Tsao.** Mackay Mem. Hosp., Taiwan.
- Ther.963 **175.20** Protosapannin A protects mice from experimental autoimmune myocarditis and induces tolerogenic phenotype of MyHC- α specific dendritic cells via HIF1 α -dependent glycolytic metabolic reprogramming. **M. Liu, Q. Chen, T. Li, G. Mang, H. Zhang, Y. Zheng, S. Li, J. Wu and M. Zhang.** The Second Affiliated Hosp. of Harbin Med. Univ., China.
- Ther.964 **175.21** Novel targeted therapies for African-American and European-American SLE patients identified from E-Genes elucidated by transancestral SNP mapping. **B. Aidukaitis, A. Labonte, M. Catalina, P. Bachali, S. Rouffa, H. Ainsworth, M. Marion, T. Howard, C. Langefeld, P. Lipsky and A. Grammer.** AMPEL BioSolutions and Wake Forest Sch. of Med.
- Ther.965 **175.22** RTA 1701 is an oral ROR γ t inhibitor that suppresses the IL-17A response in non-human primates. **S. Reisman, C. Lee, J. Proksch, M. Sakamoto and K. Ward.** Reata Pharmaceuticals.
- Ther.966 **175.23** Single-walled carbon nanotubes target neutrophils and Ly-6C^{hi} monocytes and localize to joints in murine models of arthritis. **S. Hung, N. Rajasekaran, S. Zhu, Z. Ma, E. Ghosn and E. Mellins.** Stanford Univ. Sch. of Med., Stanford Univ. and Emory Univ.

176. TOLERANCE INDUCTION, SIGNALING, AND CELL BASED THERAPY IN AUTOIMMUNITY

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- Ther.967 **176.1** Nrf2 mediated metabolic reprogramming of tolerogenic dendritic cells is protective against aplastic anemia. **H. Wei, T.K. Pareek, A. Gupta, W. Kao, O. Al mudallal and J.J. Letterio.** Case Western Reserve Univ.
- Ther.968 **176.2** Functional reprogramming of regulatory T cells in the absence of Foxp3. **L. Charbonnier, D. Lopez, J. Bleesing, M. Garcia-Lloret, K. Chen, A. Ozen, M. Li, M. Pellegrini and T. Chatila.** Boston Children's Hosp., Univ. of California, Los Angeles, Cincinnati Children's Hosp. Med. Ctr., Univ. of Utah Sch. of Med., Marmara Univ. Faculty of Med., Turkey and Mem. Sloan Kettering Cancer Ctr.
- Ther.969 **176.3** Repairing Foxp3 mutations in scurfy T cells restores regulatory T cell function. **L. Jeker and M. Kornete.** Univ. Hosp. Basel, Switzerland.
- Ther.970 **176.4** Discovery of a novel human anti-IL-2 antibody that potentiates Regulatory T cells by a structure-based mechanism. **E. Trotta, P. Bessette, S. Silveria, L. Ely, K. Jude, C. Holst, A. Coyle, C. Garcia, N. Crellin, I. Rondon and J. Bluestone.** Univ. of California, San Francisco, Pfizer, Inc., Stanford Univ. Sch. of Med. and BioElectron.
- Ther.971 **176.5** Nanoparticles Containing an Insulin-ChgA Hybrid Peptide Prevent Transfer of Type 1 Diabetes in NOD Mice by Expanding Foxp3⁺ Tregs. **B. Jamison, T. Neef, S. Miller and K. Haskins.** Univ. of Colorado Denver Sch. of Med. and Northwestern Univ., Feinberg Sch. of Med.

- THER.972 **176.6** PD-L1-engineered pancreatic islet grafts overcome rejection in allogeneic recipients. **L. Batra, P. Shrestha, E. Yolcu, H. Zhao, W. Bowen, K. Woodward, M. Coronel, M. Tan, A. Garcia and H. Shirwan.** Univ. of Louisville and Georgia Inst. of Technol.
- THER.973 **176.7** Extending remission and reversing new onset type 1 diabetes by targeted ablation of autoreactive T cells. **K. Carroll, E. Elfers, J. Stevens, J. McNally, D. Hildeman, M. Jordan and J. Katz.** Cincinnati Children's Hosp. Med. Ctr.
- THER.974 **176.8** Immune Modulation and Vascular Repair Sustain Pancreatic Beta Cell Regeneration To Reverse Late Stage Type 1 Diabetes. **T. Ukah, A. Cattin-Roy, M. Miller and H. Zaghouni.** Univ. of Missouri.
- THER.975 **176.9** Resveratrol increases efferocytosis via both Mertk-GAS6/PROS and Integrin-TG2-Mfge8 pathway. **G. Tsay.** China Med. Univ. Hosp., Taiwan, Col. of Med., China Med. Univ., Taiwan and Res. and Develop. Ctr. for Immunology, China Med. Univ., Taiwan.
- THER.976 **176.10** Protein phosphatase 2A promotes IL-2R signaling in human regulatory T cells. **Y. Ding, A. Yu and T. Malek.** Univ. of Miami Miller Sch. of Med.
- THER.977 **176.11** High-avidity immune checkpoint agonists that function as potent, soluble anti-inflammatory agents. **J. Gariepy, A. Prodeus, M. Alwash, A. Abdul-Wahid, A. Sparkes, N. Fischer, M. Cydzik, A. Ferzoco, N. Vacaresse, M. Julius and R. Gorczynski.** Sunnybrook Res. Inst., Canada and Toronto Gen. Hosp., Canada.
- THER.978 **176.12** PLGA-microsphere delivery of insulin and IGRP epitopes as a therapy for type 1 diabetes. **J. Racine, C. Leeth and D. Serreze.** The Jackson Lab. and Virginia Tech.
- THER.979 **176.13** T cells directed against different myelin antigen epitopes cooperate to induce autoimmune encephalomyelitis in mice. **E. Rojano, R. Robinson and T. Forsthuber.** The Univ. of Texas, San Antonio.
- THER.980 **176.14** NF- κ B p65 binding peptide agents suppress pathology in neuroinflammation model of Alzheimer's disease. **M. Srinivasan, N. Lahiri, A. Thyagarajan, D. Hickman and D. Lahiri.** Indiana Univ. Sch. of Dent., Provoidya LLC, and Indiana Univ. Sch. of Med.
- THER.981 **176.15** Tailoring a new generation of chimeric antigen receptors for regulatory T cells. **L. Ferreira, A. Kaul, R. Guerrero-Moreno, J. Fontenot, J. Bluestone and Q. Tang.** Univ. of California, San Francisco and Juno Therapeutics, Seattle.
- THER.982 **176.16** Induction of Haploidentical Mixed Chimerism Cures Autoimmune Type 1 Diabetes. **Y. Liu, M. Zhang, A. Riggs, X. Zhang and D. Zeng.** Xinqiao Hosp. of AMU, China and Beckman Res. Inst. of City of Hope.
- THER.983 **176.17** Development of citrullinated-vimentin-specific CAR for targeting Tregs to treat autoimmune rheumatoid arthritis. **C. Raffin, Y. Zhou, L. Piccoli, A. Lanzavecchia, M. Sadelain, S. Tareen, J. Fontenot and J. Bluestone.** Univ. of California, San Francisco, Inst. for Res. in Biomedicine, Switzerland, Mem. Sloan Kettering Cancer Ctr. and Juno Therapeutics, Seattle.
- THER.984 **176.18** Efficient generation of tolerogenic dendritic cells using minocycline and dexamethasone. **C. Lee, J. Lee, C. Park, S. Kim, H. Jung and K. Kim.** Chungbuk Natl. Univ., South Korea and Sahmyook Univ., South Korea.
- THER.985 **176.19** IL36-Mediated Skin Inflammation Requires Signaling Through Chemokine Receptor CCR6. **J. Campbell, K. Ebsworth, L. Ertl, J. McMahon, S. Yau, Y. Wang, S. Liu, T. Dang, P. Zhang, T. Schall and R. Singh.** ChemoCentryx, Inc.
- THER.986 **176.20** Induction rate of regulatory T cells from conventional T cells is affected by substrate rigidity. **J. Lee, N. Nataraj, A. Dang and L. Kam.** Columbia Univ. and Perelman Sch. of Med., Univ. of Pennsylvania.
- THER.987 **176.21** Deletion of adenosine A_{2A} receptor blocks the beneficial effects of *Lactobacillus reuteri* on Treg-deficiency-induced autoimmunity. **Y. Liu, B. Gohl, T. Hoang, D. Tran and J.M. Rhoads.** The Univ. of Texas Hlth. Sci. Ctr. at Houston McGovern Med. Sch.

177. IMMUNOMETABOLISM IN TUMOR IMMUNITY AND IMMUNOTHERAPY

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- TUM.990 **177.1** The metabolic basis of resistance to Adoptive T Cell Therapy (ACT) in patients with solid tumors. **W. Peng, T. Cascone, J. McKenzie, R. Mbofung, S. Punt, Z. Wang, C. Xu, L. Williams, Z. Wang, C. Bristow, A. Carugo, M. Peoples, L. Li, T. Karpinets, L. Huang, S. Malu, C. Creasy, S. Leahey, J. Chen, C. Bernatchez, V. Gopal, T. Heffernan, J. Hu, J. Wang, R. Amaria, I. Wistuba, S. Woodman, J. Roszik, E. Davis, M. Davies, J. Heymach and P. Hwu.** MD Anderson Cancer Ctr.
- TUM.991 **177.2** PID1, a new tumor-promoting gene in insulin resistance mediated acceleration of hepatocellular carcinoma development and progression. **M. Xiang, Q. Xu, N. Xu, Z. Zhou and H. Cao.** Sch. of Pharmacy, Tongji Med. Col. and Huazhong Univ. of Sci. and Technol., China.
- TUM.992 **177.3** The Force Awakens: illuminating the role of kynurenine in cancer progression and treatment. **N. Ashoura, J. Dekker, T. Triplett, K. Garrison, J. Blazeck, C. Karamitros, C. Lamb, Y. Tanno, L. Ehrlich, M. Zhang, M. Manfredi, E. Stone and G. Georgiou.** Univ. of Texas at Austin and Kyn Therapeutics.
- TUM.993 **177.4** Nicotinamide adenine dinucleotide (NAD) oxidation preserves T cell function under lactic acidosis characteristic of the tumor microenvironment (TME). **U. Beier, W. Quinn, J. Jiao, T. TeSlaa, J. Stadanlick, W. Hancock, E. Eruslanov, J. Rabinowitz and J. Baur.** Children's Hosp. of Philadelphia, Univ. of Pennsylvania and Univ. of Princeton.
- TUM.994 **177.5** Interaction between Kynurenine and the AhR is an effector mechanism of tumor immunosuppression and represents a potential immunotherapy target. **L.F. Campesato, S. Budhu, J. Tchaicha, S. Pourpe, C. Liu, M. Manfredi, K. McGovern, J. Wolchok and T. Merghoub.** Mem. Sloan Kettering Cancer Ctr. and Kyn Therapeutics.
- TUM.995 **177.6** WITHDRAWN.
- TUM.1000 **177.7** Arginase-1 is neither constitutively expressed in nor require for myeloid-derived suppressor cell (MDSC)-mediated inhibition of T cell proliferation. **K. Kidder, Z. Bian, L. Shi and Y. Liu.** Georgia State Univ.

MONDAY—POSTER SESSIONS

- TUM.1001 **177.8** Rapamycin prevents surgery-induced T cell exhaustion in patients with bladder cancer. **R. Svatek, N. Ji, N. Mukherjee, E. de Leon, A. Kabra, V. Hurez, M. Nicolas, J. Michalek, M. Javors, C. Livi, Z. Sharp and T. Curiel.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- TUM.1002 **177.9** Mitochondrial Ca²⁺ transport-dependent intercellular crosstalk between CD8 T and natural killer cells prevents tumor development and escape. **A. Shanker, R. Uzhachenko, M. Buferne, C. Boyer, J. S. Goodwin, W. Hofmeister, L. Leserman, A. Schmitt-Verhulst and A. Ivanova.** Meharry Med. Col. Sch. of Med., Vanderbilt Univ. Sch. of Med., Centre d'immunologie de Marseille-Luminy, France, Univ. of Tennessee Space Inst. and Yale Sch. of Med.
- TUM.1003 **177.10** Epidermal fatty acid binding protein prevents chemical-induced skin tumorigenesis through induction of IFN β and IFN λ , and inhibition of SOX2 expression in keratinocytes. **Y. Zhang, J. Hao and B. Li.** Univ. of Louisville.
- TUM.1004 **177.11** A lipid mediated paracrine signaling network stimulates tumor associated macrophage development in cancer and metastasis. **V. Rai and R. Ray.** Inst. of Life Sci., India and Manipal Univ., India.
- TUM.1005 **177.12** Phosphorescence-optimized 2-photon lifetime and kinetic imaging reveals reanimation of tumor immune surveillance by hyper-oxygenation. **M. Rytelewski, K. Harutyunyan, P. Wspanialy, F. Nwajei, M. Zal, S. Vinogradov, M. Konopleva and T. Zal.** Univ. of Texas MD Anderson Cancer Ctr., Univ. of Guelph, Canada, The Univ. of Texas MD Anderson Cancer Ctr. and Univ. of Pennsylvania.
- TUM.1006 **177.13** Targeting fatty acid amide hydrolase (FAAH) in diffuse large B-cell lymphoma (DLBCL). **C.R. Woods, J. Sun, J. Henderson and C. Mohan.** Univ. of Houston.
- TUM.1007 **177.14** Selective knockdown of A_{2A}R in CD8⁺ T cells using CD8-targeting nanoliposomes. **H. Newton, M. Arnold, A. Chimote and L. Conforti.** Univ. of Cincinnati
- TUM.1008 **177.15** Obesity-induced changes in baseline immune responses to pre-clinical breast cancer. **J. Gibson, P. Nagareddy and L. Norian.** Univ. of Alabama, Birmingham.
- TUM.1009 **177.16** Absence of vacuolar ATPase in hematopoietic stem cells promotes breast tumor progression and pathogenesis. **M. Sahoo, G. Katara, M. Bilal, A. Kulshrestha, S. Ibrahim, S. Fleetwood and K. Beaman.** Chicago Med. Sch. and Rosalind Franklin Univ. of Med. and Sci.
- TUM.1010 **177.17** Modulating T cell function through elongation of the mitochondrial network to improve cytotoxic CD8⁺ tumor infiltrating lymphocyte function. **M. Gonzales and T. Bullock.** Univ. of Virginia.
- TUM.1011 **177.18** Distinct innate immune responses to different murine mammary carcinoma are evident within the first 72 hours of tumor injection. **R. Kurt, C. Zhang, J. Schwartz, C. Newsom-Stewart, A. Baranovic and S. Chilel-Martin.** Lafayette Col.
- TUM.1012 **177.19** Changes in Chronic Inflammatory Cells by Bariatric Weight Loss Surgery. **M. Sanchez-Pino, Y. Kim, J. Liu, D. Wyczechowska, W. Richardson, J. Wooldridge, R. Mynatt, H. Berthoud and A. Ochoa.** Louisiana State Univ. Hlth. Sci. Ctr., New Orleans, Ochsner Clin. Fdn., New Orleans and Pennington Biomed. Res. Ctr., Baton Rouge.
- TUM.1013 **177.20** T cell co-stimulation reprograms the metabolic fitness of highly differentiated CD8⁺ T cells for improved adoptive T-cell therapy. **A. Srivastava, B. Paria, S. Chandran and U. Kammula.** Univ. of Pittsburgh, NCI, NIH and Mem. Sloan Kettering Cancer Ctr.
- TUM.1014 **177.21** Effect of 3,3'-Diindolylmethane on Gut Microbiome in Colorectal Cancer. **H. Alrafas, B. Busbee, P. Nagarkatti and M. Nagarkatti.** Univ. of South Carolina Sch. of Med.

178. THE TUMOR MICROENVIRONMENT

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- TUM.1015 **178.1** MicroRNA-92 expression in CD133⁺ melanoma stem cells regulates immunosuppression in the tumor microenvironment through integrin-dependent TGF- β activation. **C. Shidal, M. Nagarkatti and P. Nagarkatti.** Univ. of South Carolina Sch. of Med.
- TUM.1016 **178.2** Atrophied thymus can serve as a tumor reservoir for harboring melanoma cells. **O. Sizova, D. Kuriatnikov and D. Su.** Univ. of North Texas Hlth. Sci. Ctr.
- TUM.1017 **178.3** The intrinsic pro-tumorigenic role of IR. F1. **L. Shao, W. Hou, N. Scharping, G. Delgoffe and S. Sarkar.** Univ. of Pittsburgh Sch. of Med. and Univ. of Pittsburgh Med. Ctr. Shadyside Hosp.
- TUM.1018 **178.4** Single cell sequencing reveals regulatory role for T cell expressed microRNA-155 within the tumor microenvironment. **T. Huffaker and R. O'Connell.** Univ. of Utah
- TUM.1019 **178.5** Role of tumor microenvironment in the relapse of T cell acute lymphoblastic leukemia after stem cell transplant. **D. Askew, S. Eid, J. Myers and A. Huang.** Case Western Reserve Univ.
- TUM.1020 **178.6** A modest change in regulation of NOD1 expression has a major impact on inflammation and gastric cancer. **N. Subramanian, L. Rommereim, B. Dutta, A. Akhade, C. Hutcheon, C. Rostomily, N. Lounsbury, R. Savan, I. Fraser and R. Germain.** Inst. for Syst. Biol., NIAID, NIH and Univ. of Washington.
- TUM.1021 **178.7** Tumor necrosis factor receptor II (TNFR2) promotes the growth of mouse CT26 colon cancer. **X. Chen, P. Li, X. Yang, X. Miao and H. Luo.** State Key Lab. of Quality Res. in Chinese Med., Inst. of Chinese Med. Sci., Univ. of Macau, China and Univ. of Macau, Macau.
- TUM.1022 **178.8** Tumor transcriptome analysis and immune infiltrate profiling suggests a role for the *IFNL3*/*IFNL4* genomic locus in liver cancer. **O. Onabajo, F. Wang, R. Banday and L. Prokunina-Olsson.** NCI, NIH, and NCI, NIH.
- TUM.1023 **178.9** Utilization of High-Frequency Irreversible Electroporation (H-FIRE) to modulate the tumor microenvironment and promote systemic immune system activation in breast cancer. **I. Allen, V. Ringel-Scaia, S. Coutermarsh-Ott, R. Brock, M. Lorenzo, N. White, K. Oestreich, S. Verbridge and R. Davalos.** Virginia-Maryland Regional Col. of Vet. Med., Virginia Polytechnic Inst. and State Univ. and Virginia Tech Carilion Sch. of Med. and Res. Inst.

- TUM.1024 **178.10** Cellular and molecular mechanisms regulating the development of tertiary lymphoid structures in tumor. **A. Rodriguez, J.D. Peske, A. Woods, M. Melssen, S. Cyranowski, G. Parriott and V. Engelhard.** Univ. of Virginia Sch. of Med.
- TUM.1025 **178.11** Crosstalk of sphingolipids and inflammasomes modulates tumor microenvironment and promotes cancer progression. **B. Guo, M. Kanton, W. Sun and B. Ogretmen.** Med. Univ. of South Carolina.
- TUM.1026 **178.12** Tumor-resident macrophages modulate intestinal barrier function through sialylation of Mucin 1 in IBD and colitis-associated cancer. **S. Cascio, M. Kvorjak, J.A. Hashash, R. Sriram, D. Hartman, D. Binion and O. Finn.** Univ. of Pittsburgh Sch. of Med. and Carnegie Mellon Univ.
- TUM.1027 **178.13** Brain tumor-induced neuronal stress orchestrates adaptive immune surveillance through fractalkine. **F. Nwajei, M. Shanmugasundaram, D. Paine, A. Zal, F. Beceren-Braun, K. Gabrisiewicz, S. Zhou, S. Lee, B. Rodriguez, A. Heimberger and T. Zal.** The Univ. of Texas MD Anderson Cancer Ctr., Carleton Col., Bellicum Therapeutics and Baylor Col. of Med.
- TUM.1028 **178.14** The efficacy of PD-L1 blockade on PD-L1 negative medulloblastoma is dependent on timing and the tumor microenvironment. **F. Allen, R. Dorand, P. Rauhe, A. Petrosiute and A. Huang.** Case Western Reserve Univ., Univ. Hosp., Univ. Hosp. Rainbow Babies and Children's Hosp., Angie Fowler AYA Cancer Inst. and Case Comprehensive Cancer.
- TUM.1029 **178.15** Polymorphic UHRF1BP1 drives superior anti-tumor immunity in ovarian cancer. **K. Payne, N. Svoronos, R. Chaurio, J.P. Sanz, C. Anadon, J. Calmette, S. Biswas, T.L. Costich, J. Mine and J. Conejo-Garcia.** H. Lee Moffitt Cancer Ctr. and Res. Inst. and Wistar Inst.
- TUM.1030 **178.16** Deficiency in Soluble FasL Terminates Ocular Immune Privilege to Promote Elimination of Intraocular Tumors. **P. McCullough, E. Kissinger, A.M. Rothstein and K. McKenna.** Franciscan Univ. of Steubenville and Univ. of Massachusetts.
- TUM.1031 **178.17** Anti-tumor immunity generated as an artifact of tumor implantation determines the response to immunotherapy in murine models. **M. Gough, L. Zebertavage, S. Bambina, G. Kramer, D. Friedman, V. Troesch, T. Blair, J. Baird, A. Alice and M. Crittenden.** Earle A. Chiles Res. Inst., Providence Cancer Ctr., Oregon Hlth. and Sci. Univ. and Mayo Grad. Sch.
- TUM.1032 **178.18** A novel mechanism of innate immune dysfunction in untreated Chronic Lymphocytic Leukemia. **B. Manso, H. Zhang, M. Mikkelsen, K. Gwin, C. Secreto, W. Ding, S. Parikh, N. Kay and K. Medina.** Mayo Clin., Mayo Grad. Sch. and Mayo Clin. Col. of Med.
- TUM.1033 **178.19** Development of syngeneic NOD tumor models to study tumor immunity in autoimmune-prone mice. **A. Young, V. Nguyen, S. Mehdizadeh, K. Sheehan, D. Serreze, R. Schreiber and J. Bluestone.** Univ. of California, San Francisco, Washington Univ. Sch. of Med. in St. Louis and Jackson Lab.
- TUM.1034 **178.20** Targeting FAAH in hematological and non-hematological cancers. **T. Doan, J. Sun, J. Henderson, Y. Du and C. Mohan.** Univ. of Houston.
- TUM.1035 **178.21** IL-36 γ promotes a local immune response via the formation of tertiary lymphoid structures in colorectal carcinoma. **A. Weinstein, L. Chen, N. Giraldo, F. Petitprez, L. Lacroix, E. Brzana, W. Fridman, C. Sautes-Fridman and W. Storkus.** Univ. of Pittsburgh Sch. of Med., Natl Inst. of Hlth. and Med. Res. France, France.
- TUM.1036 **178.22** The role of tumor-derived exosomes in the formation of a pre-metastatic niche in cancer. **S. Morrissey, X. Kong, J. Noe and J. Yan.** Univ. of Louisville and Zhejiang Univ. Sch. of Med., China.
- TUM.1037 **178.23** Immunogenicity of diffuse intrinsic pontine glioma (DIPG). **J. Marquez-Manriquez, L. Fernandez, J.A. Briseno, G. Montano, M. Verborg, A. Camacho-Hernandez and P-A. Lucero-Diaz.** Sonora Cancer Res. Ctr.
- TUM.1038 **178.24** Differential roles of tumoral and systemic IL-1 α in the development of hepatocellular carcinoma. **H. Liu.** Natl. Univ. of Singapore, Singapore.
- TUM.1039 **178.25** Targeting inflammation to prevent breast cancer metastasis. **E. Holl, V. Frazier, D. Boczkowski, B. Sullenger and S. Nair.** Duke Univ. Med. Ctr.
- TUM.1040 **178.26** MR image-guided focused ultrasound immune modulation for glioma therapy. **N. Sheybani, A. Witter, T. Bullock and R. Price.** Univ. of Virginia.
- TUM.1041 **178.27** Platelet activation alters the immune landscape of the tumor microenvironment. **B. Riesenber, S. Rachidi, A. Metelli, J. Gutierrez, B. Liu and Z. Li.** Med. Univ. of South Carolina.
- TUM.1042 **178.28** Inflammation induces GILT expression in human melanoma. **L. Meador, H. Menon, H. Cui, D. Roe, D. DiCaudo and K. Hastings.** Univ. of Arizona Cancer Ctr., Univ. of Arizona Col. of Med., Univ. of Arizona and Mayo Clin. Arizona.
- TUM.1043 **178.29** Development of an Orthotopic Colorectal Cancer Mouse Model for Radiation Therapy Studies. **C. Rodriguez, N. Battaglia, S. Gerber and E. Lord.** Univ. of Rochester Sch. of Med. and Dent.
- TUM.1044 **178.30** Upregulating IL-15 in the tumor microenvironment promotes anti-tumor responses. **R.S. Carrero, F. Beceren-Braun, S. Rivas, S. Anthony and K. Schluns.** Univ. of Texas, Houston, Univ. of Texas MD Anderson Cancer Ctr. and Univ. of Iowa.
- TUM.1045 **178.31** ST8Sia6 overexpression in cancer and its effect on the tumor microenvironment. **D. Friedman, M. Shapiro and V.S. Shapiro.** Mayo Grad. Sch. and Mayo Clin.
- TUM.1046 **178.32** Phytohemagglutinin activates CD8 T cells in a model of the tumor microenvironment. **J. Riggs, Y. Lomakova, N. Goldman and J. Somerville.** Rider Univ.
- TUM.1047 **178.33** Tumor cell-intrinsic programmed death protein 1 expression and induction in human cancer cell lines. **E. Osta, H. Gupta, D. Zhang, A. Kornepati, C. Clark and T. Curiel.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- TUM.1200 **178.34** Gene Editing in the NSG mouse strain and its genetic derivatives. **F. Buaas, M. Wiles, B. Low, P. Kutny and D. Grass.** The Jackson Lab.
- TUM.1201 **178.35** Brightfield and Fluorescence Imaging using 3D PrimeSurface® Ultra-Low Attachment Microplates. **A. Dang and B. Larson.** S-BIO, Sumitomo Bakelite and BioTek Instruments, Inc.
- TUM.1202 **178.36** IgD Ligation Promotes B Cell Proliferation in a Model of the Tumor Microenvironment. **J. Riggs, J. Londregan, N. Goldman and J. Somerville.** Rider Univ.

MONDAY—POSTER SESSIONS

- TUM.1203 **178.37** Isolation and analysis of plasma-derived exosomes in patients with glioblastoma. **L.C. Garcia, T. Peterson, M. Cepeda, H. Leong, A. Johnson and I. Parney.** Mayo Grad. Sch. and Mayo Clin.
- TUM.1204 **178.38** Age-associated immune dysregulation in oral cancer. **K. Tomihara, K. Sekido and M. Noguchi.** Univ. of Toyama, Japan.
- TUM.1205 **178.39** Focused ultrasound ablation as an immunomodulatory strategy for metastatic breast cancer therapy. **N. Sheybani, A. Witter, A. Stevens, T. Bullock and R. Price.** Univ. of Virginia.
- TUM.1206 **178.40** Single-Cell Transcriptomic Analysis of Tumor-Immune Microenvironment in Pancreatic Cancer. **X. Li, Y. Zhao, G. Yi, J. Wang, X. Wang, S. Guo, G. Jin, B. Li and X. Liu.** BGI-Shenzhen, China, Shanghai Inst. of Immunology, Shanghai Jiao Tong Univ. Sch. of Med., China and Changhai Hosp. and Second Military Med. Univ., China.
- TUM.1207 **178.41** Surface and cytoplasmic PD-L1 regulate distinct cell-intrinsic signaling and functional outcomes. **H. Gupta, S. Lao, A. Padron, M. Zhou, J. Liu, C. Clark, J. Drerup, M. Garcia, G. Sareddy, V. Hurez, R. Li, R. Vadlamudi and T. Curiel.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- TUM.1208 **178.42** A delicate interplay between adaptive and innate immunity caused by immunotherapy triggers tumor immunity and aseptic inflammation. **D. Hirschhorn, J. Ricca, B. Gasmi, O. DeHanau, L. Mangarin, S. Budhu, Y. Li, C. Cortez, C. Liu, R. Zappasodi, S. Houghton, A. Betof, M. Lacouture, T. Hollman, J. Albregues, M. Egeblad, J. Wolchok and T. Merghoub.** Mem. Sloan Kettering Cancer Ctr. and Cold Spring Harbor Lab.
- TUM.1209 **178.43** Brain-Thymus communication as a novel immunosuppressive mechanism in the GL261 model of Glioblastoma. **K. Ayasoufi, R. Khadka, F. Jin, C. Malo, N. Desai and A. Johnson.** Mayo Clin. and Mayo Clin. Grad. Sch. of Biomed. Sci.
- TUM.1210 **178.44** Utilizing the 2017–2018 seasonal influenza vaccine as a treatment for cancer. **J. Newman, C. Chesson, S. Aspromonte, P. Bommareddy, R. Pepe, S. Tarabichi, S. Li, S. Jhavar, N. Herzog, M. Aboelatta, E. Kaul, R. Estupinian, M. Kane, A. Silk and A. Zloza.** Rutgers Cancer Inst. of New Jersey and MD Anderson Cancer Ctr.
- TUM.1211 **178.45** DcR3 acts as a tumor marker of metastatic cancers. **X. Wan and J. Li.** Inst. of Biomedicine and Biotechnology, Henzhen Inst. of Advanced Technol., Chinese Acad. of Sci., China.
- VAC.1213 **179.2** A novel and easy-to-use approach for assessment of chimeric antigen receptor (CAR) modified immune cell cytotoxicity. **W. Xiong, N. Weber and D. Liu.** Houston Methodist Res. Inst.
- VAC.1214 **179.3** CD133-redirection chimeric antigen receptor engineered autologous T cell treatment in patients with advanced hepatocellular carcinoma. **Y. Wang, Z. Wu, H. Dai, C. Tong, M. Chen, Y. Guo and W. Han.** Chinese PLA Gen. Hosp., China.
- VAC.1215 **179.4** High-Throughput Characterization of Synthetic Costimulatory Domains for Chimeric Antigen Receptors. **D. Goodman, E. Park, K. Kearns, A. Marson, K. Roybal and J. Bluestone.** Univ. of California, San Francisco.
- VAC.1216 **179.5** WITHDRAWN.
- VAC.1217 **179.6** Generating suppression-resistant natural killer cells as an enhanced immunotherapeutic for neuroblastoma. **R. Burga, E. Williams, E. Yvon, R. Fernandes, C.R.Y. Cruz and C. Bollard.** Children's Natl. Hlth. Syst. and George Washington Univ.
- VAC.1218 **179.7** Inhibition of PIM kinases and PD1 improves T cell mediated control of murine melanoma. **S. Chatterjee, P. Chakraborty, A. Daenthanasanmak, X. Yu, A. Kraft and S. Mehrotra.** Med. Univ. of South Carolina and Univ. of Arizona Cancer Ctr.
- VAC.1219 **179.8** Targeting HLA-E for prostate cancer immunotherapy. **K. Frueh, M. Verweij, S. Hansen, M. Mansouri, S. Nair, D. Malouli, A. Tewari, L. Uebelhoer, A. Ventura, A. Selseth, M. Axthelm, N. Bhardwaj and L. Picker.** Oregon Hlth. and Sci. Univ. and Icahn Sch. of Med., Mount Sinai.
- VAC.1220 **179.9** SphK1/S1P Axis Regulate PPAR γ Levels to Program Metabolically Fit Anti-Tumor T Cells. **P. Chakraborty, K. Thyagarajan, S. Chatterjee, S.P. Selvam, B. Ogretmen and S. Mehrotra.** Med. Univ. of South Carolina.
- VAC.1221 **179.10** Selective TRAF over-expression enhances CD19-targeted 41BB CAR T function by increasing NF- κ B. **G. Li, J. Boucher, H. Kotani, Y. Zhang, B. Shrestha, B. Yu and M. Davila.** H. Lee Moffitt Cancer Ctr. and Res. Inst.
- VAC.1222 **179.11** Cheating death: a Fas-41BB immunomodulatory fusion protein obviates a death signal to enhance T cell function and adoptive therapy targeting leukemia and solid tumors. **S. Oda, K. Anderson, N. Garcia, P. Ravikumar, A. Daman, P. Bonson and P. Greenberg.** Fred Hutchinson Cancer Res. Ctr., Weill Cornell Grad. Sch. of Med. Sci. and Univ. of Washington.
- VAC.1223 **179.12** Adoptive cell therapy using allergen-specific CD4-CD8-T regulatory cells to treat airway allergic disease in mice. **D. Tian, C. Zhang, H. Jin, Y. Tian, G. Sun, K. Liu, W. Shi and D. Zhang.** Beijing Friendship Hosp. and Capital Med. Univ., China.
- VAC.1224 **179.13** Therapeutically targeting B7-H3 via chimeric antigen receptors and bispecific killer cell engagers in non-small cell lung cancer. **Q. Zhao, J. Liu and S. Yang.** Univ. of Macau, Macau.
- VAC.1225 **179.14** Non-viral and viral delivery solutions for next generation cell therapy. **S. Chang, X. Yu, Y. Ji, X. Liang, N. Andronikou and X. de Mollerat du Jeu.** Thermo Fisher Scientific.

179. CELL THERAPY

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- VAC.1212 **179.1** Identification of novel α -fetoprotein-specific T cell receptors to redirect human T cells for hepatocellular carcinoma immunotherapy. **Y. He, W. Zhu, Y. Peng, L. Wang, Y. Hong, X. Jiang, Q. Li, H. Liu, L. Huang, J. Wu, E. Celis, T. Merchen and E. Kruse.** Augusta Univ.

180. NOVEL VACCINES AND IMMUNOTHERAPIES AGAINST INFECTIOUS DISEASES

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- VAC.1226 **180.1** Differential abundance of mDC subsets predict response to Hepatitis B vaccination. **R. Scheuermann, M. Novotny, B. Aevermann, R. Ben-Othman, A. Liu, M. Sadarangani and T. Kollmann.** J. Craig Venter Inst., Univ. of California, San Diego and Univ. of British Columbia, Canada.
- VAC.1227 **180.2** Sequential and liver-targeting activation of T cells overcomes PDL1-mediated viral persistence. **L. Liu, H. Peng and Y. Fu.** Univ. of Texas Southwestern Med. Ctr. and Inst. of Biophysics, Chinese Acad. of Sci., China.
- VAC.1228 **180.3** Effector responses of cytotoxic CD8+ T cells generated by utilizing an FcR-targeting vaccine strategy in an intracellular bacterial infection model. **C. Bitsaktsis and J. McCauley.** Seton Hall Univ.
- VAC.1229 **180.4** Reversing T cell Exhaustion Through Discovery of Small Molecules. **B. Marro, R.B. Zavareh, J. Tejaro, L. Lairson and M. Oldstone.** Scripps Res. Inst.
- VAC.1230 **180.5** Hematopoietic stem/progenitor cells engineered with T cell receptors for immunotherapy for HIV infection. **A. Joglekar, S. Sandoval, J. Jeppson, Z. Liu, M. Leonard, M. Swift and D. Baltimore.** California Inst. of Technol.
- VAC.1231 **180.6** Chimeric antigen receptors against HIV: bispecific CD4-based designs for enhanced breadth/potency and minimal immunogenicity. **A. Hajduczk, D. Danielson, A. Scanlan and E. Berger.** NIAID, NIH.
- VAC.1232 **180.7** Co-delivery of mucosa-associated epithelial chemokine (MEC/CCL28) enhances anti-HIV-1 mucosal responses through CCR10 in the context of DNA vaccination. **E. Gary, N. Kathuria, M. Bernui, L. Humeau, D. Weiner and M. Kutzler.** Drexel Univ. Col. of Med., Inovio Pharmaceuticals and Wistar Inst.
- VAC.1233 **180.8** Immune Competition of HIV Epitopes in Draining Lymph Nodes. **Z. Lu, X. Hu, A. Valentin, M. Rosati, J. Mullins, G. Pavlakis and B. Felber.** NIC, NIH and Univ. of Washington.
- VAC.1234 **180.9** *In vivo* NKTT320-induced activation of invariant Natural Killer T-cells (iNKTs) and potential applications for use in AIDS pathogenesis modulation. **N. Bond, S. Yu, N. Rout, D. Tran, D. Szeltner, R. Schaub and A. Kaur.** Tulane Univ. and NKT Therapeutics.
- VAC.1235 **180.10** Differential induction of antibodies against immunogenic V1V2 and V3 regions of HIV-1 envelope by immune complex vaccines. **C. Hioe, R. Kumar, C. Upadhyay, A. Fox, V. Itri, K. Peachman, M. Rao, X. Jiang, X. Kong and S. Zolla-Pazner.** Icahn Sch. of Med., Mount Sinai, Walter Reed Army Inst. of Res. and NYU Sch. of Med.
- VAC.1236 **180.11** Monoclonal antibody prophylaxis protects against lethal Ebola virus infection. **R. James, S. Stonier, R. Bakken, Z. Bornholdt and J. Dye.** U.S. Army Med. Res. Inst. of Infectious Dis. and Mapp Biopharmaceutical Inc.
- VAC.1237 **180.12** Transduction of retinoic acid-inducible gene 1 by Ebola virus-like particles enhances antigen-presentation. **P. Warneke, J. Braaten, M.K.E. Ngu, H. Potter, G. Nelson, E. Pottebaum and O. Martinez.** Winona State Univ.
- VAC.1238 **180.13** Pan-filovirus monoclonal antibody cocktail protects against lethal challenge with Marburg virus in non-human primates. **L. Prugar, D. Dorosky, F. Holtsberg, S. Shulenin, H. Vu, K. Howell, R. Bakken, J. Brannan, J. Dye and M.J. Aman.** U.S. Army Med. Res. Inst. of Infectious Dis. and Integrated Biotherapeutics Inc.
- VAC.1239 **180.14** Comparing NKT cell therapy to oseltamivir phosphate (Tamiflu®) for controlling pandemic H1N1 influenza. **B.L. Artiaga, G. Yang, J. Loeb, J. Richt, J. Abbott, J. Lednický and J. Driver.** Univ. of Florida and Kansas State Univ.
- VAC.1240 **180.15** Innate-like BCR targeting of Influenza Virus. **D. Lingwood.** Ragon Inst. of MGH and MIT and Harvard.
- VAC.1241 **180.16** Homologous and heterologous protection against influenza B virus following live attenuated influenza virus (LAIV) immunization. **J. Santos, C. Finch, T. Sutton, A. Obadan, I. Aguirre, Z. Wan, D. Lopez, G. Geiger, A. Gonzalez-Reiche, L. Ferreri and D. Perez.** Univ. of Georgia, Virginia-Maryland Regional Col. of Vet. Med. and Univ. of Maryland.
- VAC.1242 **180.17** Novel MVA-based vaccine expressing influenza NP and M1 activates cross-reactive T cell responses in human nasopharynx-associated lymphoid tissue (NALT). **S. Puksuriwong, M. Ahmed, R. Sharma, M. Krishnan, S. Sood, M. McCormick, S. Leong, T. Lambe, P. McNamara, S. Gilbert and Q. Zhang.** Univ. of Liverpool, United Kingdom, Alder Hey Children's Hosp., United Kingdom, Royal Liverpool and Broadgreen Univ. Hosp., United Kingdom, Aintree Univ. Hosp., United Kingdom and The Jenner Inst., Univ. of Oxford, United Kingdom.
- VAC.1243 **180.18** WITHDRAWN.
- VAC.1244 **180.19** Induction of Zika specific CD8 T cell responses in the placenta after heat shock protein gp96-Ig vaccination. **N. Strbo, L. Romero, E. Fisher and D. Garcia.** Univ. of Miami Miller Sch. of Med.
- VAC.1245 **180.20** Development of novel C type lectin receptor agonists as Th17-inducing adjuvants for next generation TB vaccines. **A. Smith, C. Buhl, R. Child, G. Ettenger, R. Schoener, D. Burkhardt, K. Ryter and J. Evans.** Univ. of Montana.
- VAC.1246 **180.21** Use of GLA-nanoalum as an effective adjuvant for a therapeutic ID93 TB vaccine. **S. Baldwin, S. Larsen, V. Reese, T. Pecor, B. Granger, A. Khandhar, C. Fox, S. Reed and R. Coler.** Infectious Dis. Res. Inst., PAI Life Sci., and Univ. of Washington.
- VAC.1247 **180.22** Intranasal immunization with *Bacillus anthracis* spore antigens sensitizes mice to death from inhalational anthrax in a B cell-dependent manner. **D.W. Weilhammer, A. Dunkle, N. Fischer, S. Gilmore, C. Blanchette, S. Peters, T. Boone, D. Lehmann, P. Hoepflich, A. Driks and A. Rasley.** Lawrence Livermore Natl. Lab and Loyola Univ. Chicago.
- VAC.1248 **180.23** WITHDRAWN.

MONDAY—POSTER SESSIONS

- VAC.1249 **180.24** Age-specific TLR7/8 adjuvant formulation overcomes hyporesponsiveness to neonatal acellular pertussis vaccination in a mouse model. **D. Dowling, A. Smith, F. Borriello, S. Brightman, S. Schüller, H. Bazin, D. Burkhardt, O. Levy and J. Evans.** Boston Children's Hosp., Harvard Med. Sch. and Univ. of Montana.
- VAC.1250 **180.25** Intranasal immunization with an acellular pertussis vaccine containing a Th1/17 skewing adjuvant, BcfA, improves *B. pertussis* clearance from the mouse respiratory tract. **K. Yount, J. Jennings-Gee, S. Quataert, R. Deora and P. Dubey.** Ohio State Univ., Wake Forest Univ. Hlth. Sci. and Univ. of Rochester Med. Ctr.
- VAC.1251 **180.26** Innate immunity limits protective adaptive immune responses against pre-erythrocytic malaria infection. **N. Minkah, B. Sack, A. Sheikh, A. Vaughan and S. Kappe.** Ctr. For Infectious Dis. Res. and Dept. of Global Hlth., Univ. of Washington.
- VAC.1252 **180.27** Efficient Isolation of Monoclonal Antibodies from Antigen-specific Human Plasmablasts and Memory B Cells from a Pneumococcal Conjugate Vaccinee. **K. Cox, Z. Chen, A. Tang, M. Fink, L. Guan, J. Roman, T. Verch, M. Retzlaff and K. Vora.** Merck, Co.
- VAC.1253 **180.28** A unique adjuvant combination modulates immune responses preventing vaccine-enhanced pulmonary histopathology after vaccination with fusion protein and challenge with respiratory syncytial virus. **Y. Lee, E. Ko, Y. Lee, K. Kim, Y. Kwon and S. Kang.** Georgia State Univ.
- VAC.1254 **180.29** Generating Neutralizing Antibody responses using Recombinant Infectious Rhinovirus. **S. Lee, R. Tang, M. Currier and M. Moore.** Emory Univ. Sch. of Med., Children's Healthcare of Atlanta and Meissa Vaccines Inc.
- VAC.1255 **180.30** Antibodies targeting the intracellular liver stage malaria parasite after infection can be a potent means of reducing parasite liver burden. **B. Sack, M. Behet, S. Mikolajczak, H. Cardamone, T. Nguyen, E. Flannery, A. Vaughan, B. Oliver, V. Vigdorovich, S. Carbonetti, N. Sather, A. Scholzen, R. Sauerwein and S. Kappe.** Ctr. for Infectious Dis. Res., Radboud Univ. Med. Ctr., Netherlands and Radboud Univ. Med. Ctr.
- VAC.1259 **181.4** Generation of highly functional cross presenting monocyte-derived dendritic cells with a new automated and closed electroporation system. **C.C. Andreoni, T. Altmann, E. Bergschneider, J. Heckötter, K. Birth and A. Dzionek.** Miltenyi Biotec, Germany.
- VAC.1260 **181.5** WITHDRAWN.
- VAC.1261 **181.6** Targeted delivery of antigens to CD11b⁺ cells via nanobodies induces strong antigen-specific T cell and anti-tumor responses. **A. Woodham, R. Cheloha, J. Ling, M. Rashidian, S. Kolifrath, M. Mesyngier, J. Duarte, J. Bader, J. Skeate, D.D. Silva, W.M. Kast and H. Ploegh.** Boston Children's Hosp., Harvard Med. Sch., Massachusetts Inst. of Technol., Dartmouth Geisel Sch. of Med. and Univ. of Southern California Keck Sch. of Med.
- VAC.1262 **181.7** Synergistic anti-tumor efficacy of combined TLR3 and CD40 neoantigen vaccine requires Batf3-dependent dendritic cells. **T. Hoki, T. Yamauchi, K. Odunsi and F. Ito.** Roswell Park Cancer Inst.
- VAC.1263 **181.8** Development of an Effective Cancer Vaccine Platform Using Attenuated Salmonella typhi. **X. Xu and L. Metelitsa.** Baylor Col. of Med.
- VAC.1264 **181.9** T Cell Antigen Discovery using Signaling and Antigen-presenting Bifunctional Receptors (SABRs). **A. Joglekar, M. Leonard, J. Jeppson, M. Bethune and D. Baltimore.** California Inst. of Technol.
- VAC.1265 **181.10** Novel strategy to enhance antigen presentation and CD8 T cell immunity for curative efficacy of intranasal therapeutic HPV peptide vaccination in preclinical vaginal HPV tumor model. **G. Galvan, J. Sastry, S. Dorta-Estremera, S. Nookala and A. Yanamandra.** Univ. of Texas, Houston and MD Anderson Cancer Ctr.
- VAC.1266 **181.11** Detecting neoepitope-specific intratumoral T cell responses in a glioblastoma patient treated with personal neoantigen vaccine. **A. Anandappa, D. Keskin, Z. Hu, J. Sun, I. Tirosh, N. Mathewson, S. Shukla, S. Li, O. Olive, D. Neuberg, E. Fritsch, K. Livak, N. Hacohen, P. Ott, D. Reardon and C. Wu.** Dana-Farber Cancer Inst., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Neon Therapeutics, Inc., Massachusetts Gen. Hosp. and Brigham and Women's Hosp.
- VAC.1267 **181.12** Tumor membrane vesicle (TMV)-based cancer vaccine induces dendritic cell maturation and downstream T cell activation. **L. Munoz, Y. Shafizadeh, C. Margaroli, R. Bommireddy and P. Selvaraj.** Emory Univ. Sch. of Med. and Emory Univ.
- VAC.1268 **181.13** Novel cyclin D1-based DC vaccine inhibits TNBC tumor growth. **M. Gibb, M. Kroll, Q. Su, S. Zurawski, G. Zurawski and B. Igyarto.** Baylor Inst. for Immunology Res. and Baylor Univ.
- VAC.1269 **181.14** Augmenting vaccine immunogenicity through the use of natural human anti-Rha antibodies and monoclonal Fc domains. **M.K. Hossain, A. Vartak, S. Suheck and K. Wall.** Univ. of Toledo
- VAC.1270 **181.15** Overcoming obesity-induced immunotherapeutic failure. **S. Boi, R. Orlandella, J. Gibson, D. Starenki, A. Makkouk, V. Joshi, B. Gross, A. Salem, G. Weiner and L. Norian.** Univ. of Alabama, Birmingham, HudsonAlpha Inst. for Biotech. and Univ. of Iowa.

181. VACCINES

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- VAC.1256 **181.1** Vaccination against Follicle Stimulating Hormone Receptor delays ovarian cancer progression by breaking immune tolerance. **A.P. Puchalt, K. Wojtak, E. Duperret, J. Yan and D. Weiner.** Wistar Inst. and Inovio Pharmaceuticals Inc.
- VAC.1257 **181.2** Gp96-Ig/Costimulator Combination Platform Improves T Cell Priming, Enhances Immunity and Memory. **L. Gonzalez, L. Giffin, J. Rose, G. Fromm, S. Da Silva, T. Schreiber, R. Jasuja and J. Hutchins.** Heat Biologics and Pelican Therapeutics.
- VAC.1258 **181.3** Combination of a DepoVaxTM peptide vaccine with a lentivector vaccine induces strong antigen-specific immune responses and provides effective tumor control in murine models. **O. Hrytsenko, G. Weir and M. Stanford.** Immunovaccine Inc., Canada.

- VAC.1271 **181.16** Efficacy of immunotherapy approaches in metastatic and non-metastatic lung cancer models. **R. Bommireddy, A. Menon, L. Munoz, L. Huang, J. Kim, J. Kumar, R. Lakshmanan, S. Ramalingam and P. Selvaraj.** Emory Univ. Sch. of Med. and Winship Cancer Inst.
- VAC.1272 **181.17** Antigen targeting of Fc-receptors induces strong T cell responses in vivo independent of ITAM signaling but dependent on dendritic cell subsets. **C.L. Lehmann, A. Baranska, G. Heidkamp, L. Heger, K. Neubert, J. Lühr, A. Hoffmann, K. Reimer, C. Brückner, S. Beck, M. Seeling, M. Kießling, D. Soulat, A. Krug, J. Ravetch, J. Leusen, F. Nimmerjahn and D. Dudziak.** Univ. Hosp. Erlangen, Germany, Med. Immunology Campus Erlangen, Germany, Univ. Hosp. Aachen, Germany, Friedrich Alexander Univ. Erlangen-Nürnberg, Germany, Ludwig Maximilian Univ. Hosp., Munich, Germany, Rockefeller Univ. and Univ. Med. Ctr. Utrecht, Netherlands.
- VAC.1273 **181.18** Vaccine targeting antigens associated with cancer stem cells/epithelial to mesenchymal transition inhibits triple negative breast cancer growth. **D. Cecil, B. Curtis, E. Gad, L. Corulli and M. Disis.** Univ. of Washington.
- VAC.1274 **181.19** Efficient generation of MCC oncoprotein-specific CD4+ T cells for potential adoptive immunotherapy. **S. Davies, M. Chang, G. Whitehill, E. Koklanaris, S. Ito, I. Brownell, C. Buck, J. Barrett and P. Muranski.** NHLBI, NIH, Columbia Univ. Med. Ctr., Drexel Univ. Col. of Med., NIAMS, NIH, and NCI, NIH.
- VAC.1275 **181.20** Alum adjuvant is more effective than MF59 in promoting early germinal center formation in response to peptide-protein conjugates and enhancing efficacy of candidate vaccines against opioid abuse in adult and old mice. **M. Pravetoni, C. Robinson, S. Schmiel and D. Mueller.** Minneapolis Med. Res. Fndn., Minneapolis Med. Res. Inst., Scripps Res. Inst. and Univ. of Minnesota Med. Sch.
- VAC.1276 **181.21** Characterization of a Single Nucleotide Variant of Ccdc85c as a Tumor Rejection-Mediating Neopeptide of Meth A Fibrosarcoma. **H. Ebrahimi-Nik, W. Corwin, I. Mandoiu and P. Srivastava.** Univ. of Connecticut, Sch. of Med. and Univ. of Connecticut.
- VAC.1277 **181.22** Potentiating effects of high-molecular weight fucoidan-agaricus mix (CUA) feeding on tumor vaccination. **Y. Miyazaki, Y. Iwaihara, M. Nakamizo, S. Takeuchi, H. Takeuchi and D. Tachikawa.** Kyushu Univ., Japan, NPO Res. Inst. of Fucoidan, Japan, Ventuno Co., Ltd., Japan, Kaisou Saiensunokai. Co., Ltd., Japan, Kamerycah, Inc. and Wakamiya Hosp., Japan.
- VAC.1278 **181.23** Development of a mesothelin-based prophylactic vaccine against ovarian cancer. **N. Scholler, K. Sharma, C. Yin, K. Kamat, R. Fernando, S. Sei, R. Shoemaker, P. Stein and L. Sambucetti.** SRI International, and NCI, NIH.
- VAC.1279 **181.24** Roles of nitric oxide in hematopoietic differentiation induced by the vaccine adjuvant. **Y. Yang, Y. Liu and A. Gupta.** Natl. Taiwan Univ. Col. of Med., Taiwan.
- VAC.1280 **181.25** Immunologic synergy between intermittent NSAID administration and antigen specific vaccination in inhibiting the development of intestinal polyps in the APC(Min/+). **E. Gad, L. Corulli, P. Cowan, S. Sei, C. Grubbs and M. Disis.** Univ. of Washington, NCI, NIH and Univ. of Alabama.
- VAC.1281 **181.26** Development of adjuvant scaffolds from small molecule contact allergens. **F. Kimani, S. Kim and A. Esser-Kahn.** Univ. of Chicago.
- VAC.1282 **181.27** M-cell-targeted microparticulate oral vaccine for the treatment of ovarian cancer. **L. Mirandola and M. Chiriva-Internati.** Kiromic BioPharma and MD Anderson Cancer Ctr.
- VAC.1283 **181.28** Development of vaccines for treatment of opioid abuse using carrier proteins suitable for pharmaceutical manufacturing. **A.H. Kelcher, V. Gradinati, A. Limkar, F. Baruffaldi, A. Lees and M. Pravetoni.** Minneapolis Med. Res. Fndn., Univ. of Minnesota and Fina BioSolutions.

182. IMMUNE RESPONSES DURING ACUTE AND CHRONIC VIRUS INFECTIONS

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- VIR.1284 **182.1** Determinants of T follicular helper cell development upon viral infections. **M. Kuka, M. De, C. Maganuco, V. Cutillo, C. Cristofani, P.D. Lucia, E. Bono, L. Giustini and M. Iannacone.** Università Vita-Salute San Raffaele, Italy and San Raffaele Scientific Inst., Italy.
- VIR.1285 **182.2** Ectromelia-encoded protein B22 restricts CD4+ T cell activation. **K. Forsyth, D. Fisher, A. Hersperger and L. Eisenlohr.** Perelman Sch. of Med., Univ. of Pennsylvania, Albright Col. and Children's Hosp. of Philadelphia
- VIR.1286 **182.3** Defining the mechanisms responsible for the induction of cytotoxic CD4 T cell responses during viral infection. **C. Knudson, D. Kappes and L. Sigal.** Thomas Jefferson Univ. and Fox Chase Cancer Ctr.
- VIR.1287 **182.4** Establishing the HIV reservoir: HIV-susceptible cells and the signals that recruit them. **T. Packard, X. Luo, Z. Grimmitt, E. Herzig, N. Roan and W. Greene.** Gladstone Inst. of Virology & Immunology and Univ. of California, San Francisco.
- VIR.1288 **182.5** Enhanced immunoglobulin somatic hypermutation in human APOBEC3 transgenic mice. **S. Jones, K. Guo, B. Barrett and M. Santiago.** Univ. of Colorado, Denver.
- VIR.1289 **182.6** Not just showboating: Shp1 may keep B cells afloat during gammaherpesvirus infection. **K. Johnson, W. Mboko, P. Lange and V. Tarakanova.** Med. Col. of Wisconsin.
- VIR.1290 **182.7** Mechanisms of Zika virus antibody neutralization. **H. Zhao, J. Crowe, M. Diamond and D. Fremont.** Washington Univ. in St. Louis and Vanderbilt Univ. Med. Ctr.
- VIR.1291 **182.8** WITHDRAWN.

MONDAY—POSTER SESSIONS

- VIR.1292 **182.9** TBE vaccine and post TBE disease Abs drive antibody dependent enhancement of Zika infection. **A. Demina, A. Edri, L. Fridman, A. Rouvinski, L. Lobel and T. Hertz.** Ben-Gurion Univ. of the Negev, Israel, Natl. Ctr. for Biotechnology in the Negev, Israel, Russia, State Res. Ctr. of Virology and Biotechnology, Russia, Kuvin Ctr. for the Study of Infectious and Tropical Dis., Inst. for Med. Res. Israel-Canada, The Hebrew Univ.-Hadassah Med. Sch., The Hebrew Univ. of Jerusalem, Israel, Natl. Ctr. for Biotechnology in the Negev, Israel, Vaccine and Infectious Dis. Division, Fred Hutchinson Cancer Res. Ctr.
- VIR.1293 **182.10** WITHDRAWN.
- VIR.1294 **182.11** Recovery of HIV-mediated Immune Aging of T Cells in Virologically Controlled HIV-Infected Patients on Antiretroviral Therapy. **N. Bradley, A. Wertheimer, S. Klotz, J. Nikolich-Zugich and N. Ahmad.** Univ. of Arizona Col. of Med.
- VIR.1295 **182.12** HIV blocks Type I Interferon signaling through disruption of STAT1 phosphorylation. **J. Tran, N. Nguyen and D. Sanchez.** Western Univ. of Hlth. Sci.
- VIR.1296 **182.13** Role of glucose metabolism in herpes simplex encephalitis. **N. Rajasagi and B. Rouse.** Univ. of Tennessee, Knoxville.
- VIR.1297 **182.14** Molluscum contagiosum virus subverts MHC-I antigen presentation by targeting tapasin for degradation. **I. Harvey, X. Wang and D. Fremont.** Washington Univ. Sch. of Med. in St. Louis.
- VIR.1298 **182.15** Inhibitory receptor signatures on gamma delta T cells predict ART-suppressed HIV infection, are synergistically altered by HIV and aging, and co-vary with inflammatory plasma analytes. **J. Snyder-Cappione, A. Belkina, A. Starchenko, K. Drake, E. Proctor, D. Lauffenburger, J. Browning, A. Olson and N. Lin.** Boston Univ. Sch. of Med., Massachusetts Inst. of Technol., Cytobank and Boston Med. Ctr.
- VIR.1299 **182.16** Gammaherpesvirus infected B cells display abnormal repertoire. **M. Zelazowska, Q. Dong, J. Plummer, Y. Mu, T. MacCarthy, L. Krug and K. McBride.** The Univ. of Texas MD Anderson Cancer Ctr. and Stony Brook Univ.
- VIR.1300 **182.17** Co-inhibitory receptor TIGIT inhibits CD8⁺T mediated hepatocellular carcinoma. **L. Zong, F. Li, H. Wei, R. Sun and Z. Tian.** Univ. of Sci. & Technol. of China.
- VIR.1301 **182.18** CRABP1 and 2 differentially regulate HCV infection via modulation of lipid droplet abundance. **B. Bang, M. Li, K. Tsai, H. Aoyagi, K. Machida, H. Aizaki, J. Ou and T. Saito.** Univ. of Southern California Keck Sch. of Med., Univ. of Southern California and Natl. Inst. of Infectious Dis., Japan.
- VIR.1302 **182.19** Depo-Provera alters cervical immune responses and increases HIV infectivity ex vivo: a longitudinal study. **C. Tasker, A. Davidow, N. Roche and T. Chang.** Rutgers New Jersey Med. Sch.
- VIR.1303 **182.20** Lymph node resident memory CD69⁺ CD4⁺ Tc are a frequent population during HIV infection and express high PD-1, CXCR3 and CXCR5 levels. **G. Salgado, P. Del Rio-Estrada, A. Rivero-Arrieta, Y. Ablanado-Terrazas and G. Reyes-Terán.** Instituto Nacional de Enfermedades Respiratorias, Mexico.
- VIR.1304 **182.21** Increased reactivation of murine gammaherpesvirus-68 during *Heligmosomoides polygyrus* infection. **C. Zarek and T. Reese.** Univ. of Texas Southwestern Med. Ctr.
- VIR.1305 **182.22** Plasma monocyte-derived extracellular vesicles are associated with neurocognitive impairment in HIV infected individuals. **E. Marques de Menezes, H. Inglis, M. D'Antoni, C. Shikuma, L. Ndhlovu and P. Norris.** Blood Syst. Res. Inst., Univ. of California, San Francisco and Hawaii Ctr. for AIDS, John A. Burns Sch. of Med., Univ. of Hawaii, Honolulu.
- VIR.1306 **182.23** HIV-1 and HIV-2 induce Interferon-lambda production by plasmacytoid Dendritic Cells. **A. Hosmalin, S. Isnard, L. Vimeux, J. Guillerme, B.C. Ramirez, M. Morel, R. Cheynier and M. Iannetta.** Institut Cochin, Inserm U1016, CNRS UMR 6104 and Université Paris-Descartes, France.
- VIR.1307 **182.24** 5-Fluorouracil depletion of Myeloid Derived Suppressor Cells in mice infected with LP-BM5 retrovirus. **K. Green and W. Green.** Dartmouth Geisel Sch. of Med.
- VIR.1308 **182.25** EBV infection modulates the cell viability of gastric cancer cell through modulating miR34a-NOX2-ROS signaling. **D. Hur, S. Yun, D. Choi, S.H. Kim, M.K. Lee and Y.S. Kim.** Inje Univ. Col. of Med., South Korea.
- VIR.1309 **182.26** Development of an in vitro cell culture model to investigate HCMV priming of CD8⁺ T cells. **M. Abad, E. Lenarcic, Y. Xu, J. Wong, G. Clutton, J. Warren, B. Savoldo, N. Moorman and N. Goonetilleke.** Univ. of North Carolina, Chapel Hill.
- VIR.1310 **182.27** Spontaneously Immortalized B lymphocytes from patients with AIDS-related lymphoma are diagnostic and prognostic biomarkers. **K. Zhuang, Y. Zhang, Z. Xu, X. Qi, X. Xu, F. Meng, Y. Xiong, D. Guo and X. Gui.** ABSL-III Lab. at the Ctr. for Animal Expt., Wuhan Univ., China, Zhongnan Hosp. of Wuhan Univ., China, Basic Med. Col. of Wuhan Univ., China, Sch. of Basic Med. (Shenzhen) and Sun Yat-sen Univ., China.
- VIR.1311 **182.28** The human B cell response to infection with dengue virus serotype 2 broadly engages the plasmablast repertoire and maintains a high degree of type-specificity in memory. **S. Diehl, H. Tu, U. Nivarthi, B. McElvany, D. Emerling and A. de Silva.** Univ. of Vermont, Univ. of North Carolina, Chapel Hill and Atreca.
- VIR.1312 **182.29** Primary human B cells and plasma cells exhibit different sensitivities to vaccinia virus binding and infection. **N. Shepherd, J. Lan, W. Li, Y. Xing, S. Rane and Q. Yu.** Indiana Univ. Sch. of Med. and Indiana Univ.
- VIR.1313 **182.30** Delayed and highly specific antibody response to nonstructural protein 1 (NS1) revealed during natural ZIKV infection by NS1-based capture ELISA. **L. Yu, X. Gao, Y. Wen, J. Wang, W. Hong, C. Li, L. Zhao, C. Yin, X. Jin and F. Zhang.** Guangzhou Eighth People's Hosp., Guangzhou Med. Univ., China, Viral Dis. and Vaccine Translational Res. Unit, CAS Key Lab of Molec. Virology and Immunology, Inst. Pasteur of Shanghai and Chinese Acad. of Sci., China.

- VIR.1314 **182.31** Determinants of CD8⁺ T Cell Immunodominance in Acute HIV-1 Infection. **J. Warren, Y. Xu, M. Constanzo, V. Whale, M. Liu, R. Thomas, S. Tovanabutra, G. Kijak, L. Eller, M. Rolland, N. Michael, M. Robb, M. Eiler and N. Goonetilleke.** Univ. of North Carolina, Chapel Hill, Walter Reed Army Inst. of Res., Univ. of Oxford, United Kingdom, Imperial Col. London, United Kingdom and Henry M. Jackson Fndn. for the Advancement of Military Med.
- VIR.1315 **182.32** Biochemical and structural characterization of a host protein that binds Ebola VP30. **D. Liu, G. Small, J. Hultquist, N. Krogan, J. Batra, C. Basler, D. Leung and G. Amarasinghe.** Washington Univ. in St. Louis, Univ. of California, San Francisco and Georgia State Univ.
- VIR.1316 **182.33** Targeting TNF- α against dengue virus-induced neurotoxicity and acute viral encephalitis-like symptoms. **C-F. Lin.** Sch. of Med., Col. of Med., Taipei Med. Univ., Taiwan, Grad. Inst. of Med. Sci., Col. of Med., Taipei Med. Univ., Taipei, Taiwan.
- VIR.1317 **182.34** HIV specific B-cell memory persists in seronegative early treated children and is dominated by IgM-memory responses. **N. Cotugno, E. Morrocchi, I. Pepponi, S. Rocca, S. Bernardi, S. Rinaldi, S. Di Cesare, M. Cameron, S. Pallikkuth, P. Rossi, J. Ananworanich, S. Pahwa and P. Palma.** Bambino Gesù Children's Hosp., Italy, Univ. of Rome Tor Vergata, Italy, Univ. of Miami Miller Sch. of Med., Case Western Reserve Univ. and Military HIV Res. Program.
- VIR.1318 **182.35** Lack of T-cell mediated IL2 and TNF α production is linked with the decreased CD58 expression in intestinal tissue during acute simian immunodeficiency virus infection. **B. Pahar, D. Pan, S. Srivastav, A. Lackner and A. Das.** Tulane Natl. Primate Res. Ctr., Tulane Univ. Sch. of Med. and Tulane Univ.
- VIR.1320 **183.2** T cells Protect the Brain from a Nasal Virus Infection by Engaging Local Myeloid Cells that Cross-Present Antigen. **E.A. Moseman, A. Ciesinski and D. McGavern.** NINDS, NIH.
- VIR.1321 **183.3** Dendritic cell intrinsic IRF4 expression regulates production of regulatory cytokines during influenza virus infection. **I. Hatipoglu, E. Ainsua-Enrich, S. Kadel, S. Turner, S. Singh and S. Kovats.** Oklahoma Med. Res. Fndn.
- VIR.1322 **183.4** IFN-lambda regulates dendritic cell function to mediate protective immunity against influenza A virus infection. **E. Hemann, R. Green, R. Langlois, R. Savan and M. Gale.** Univ. of Washington and Univ. of Minnesota Med. Sch.
- VIR.1323 **183.5** Plasmacytoid dendritic cells prime anti-viral T cells during acute HIV-1 infection but deplete and impair anti-viral T cells during chronic HIV-1 infection. **G. Li, J. Ma, L. Cheng, L. Zhang and L. Su.** Univ. of North Carolina, Chapel Hill and Chinese Acad. of Sci., China.
- VIR.1324 **183.6** Reciprocal regulation of lung resident alveolar macrophage function and repopulation by β -catenin and PPAR- γ dictates host morbidity and tissue recovery from respiratory viral infection. **B. Zhu, S. Huang, L. Jiang, R. Zhang and J. Sun.** Mayo Clin.
- VIR.1325 **183.7** Eastern equine encephalitis virus evades induction of the host immune response through miR-142-3p restriction of myeloid cell replication. **D. Trobaugh, C. Sun and W. Klimstra.** Univ. of Pittsburgh Sch. of Med.
- VIR.1326 **183.8** Investigation of the immunological mechanisms underlying the attenuation of vaccinia virus lacking host-range factor C7. **L. Deng, N. Yang, P. Dai, Y. Wang, W. Wang, T. Merghoub, J. Wolchok and S. Shuman.** Mem. Sloan Kettering Cancer Ctr.

183. MYELOID CELLS, ANTIGEN PRESENTATION, AND REGULATORY FACTORS DURING VIRUS INFECTIONS

Poster Session

MON. 2:30 PM—EXHIBIT/POSTER HALL

- VIR.1319 **183.1** Autoimmune Risk Allele of *PTPN22* influences early events post viral infection. **R. Willenbring, I. Pratumchai, K. Marquardt, K. Mowen, J. Teijaro and L. Sherman.** Scripps Res. Inst. and Leiden Univ. Med. Ctr., Netherlands.

No photography of any sort is allowed in lecture or poster sessions.

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TUESDAY MORNING

MAY 8

184. MAJOR SYMPOSIUM G: MOLECULAR BASIS OF B CELL DIFFERENTIATION AND FUNCTION

Major Symposium

TUES. 8:00 AM—BALLROOM D

CHAIRS: J.L. Gommerman, M. Pepper

- 8:00 Resident memory B cells in the lung. **T. Randall**. Univ. of Alabama, Birmingham.
- 8:35 Cell division coupled epigenetic regulation of B cell differentiation. **C. Scharer**. Emory Univ. Sch. of Med.
- 9:10 Understanding somatically hypermutated IgM memory B cells. **M. Pepper**. Univ. of Washington.
- 9:45 B cell activation induces a switch from canonical to non-canonical autophagy that shapes B cell fate. **F. Batista**. Ragon Inst. of MGH and MIT and Harvard.
- 10:20 B cell roles in bone homeostasis in rheumatoid arthritis. **J. Anolik**. Univ. of Rochester Med. Ctr.

185. MAJOR SYMPOSIUM H: NEUROSCIENCE OF IMMUNITY

Major Symposium

TUES. 8:00 AM—BALLROOM EFG

CHAIRS: K.J. Tracey, T.H. Harris

- 8:00 Molecular basis for reflex integration of immunity. **K. Tracey**. Feinstein Inst. for Med. Res.
- 8:35 Glia-derived signals promote focal protective immunity to CNS infection. **T. Harris**. Univ. of Virginia.
- 9:10 Nociceptor neuron regulation of innate immunity and host defense. **I. Chiu**. Harvard Med. Sch.
- 9:45 Using imaging to study the neural—immune interplay. **P. Kubes**. Univ. of Calgary, Canada.
- 10:20 Antibodies, microglial activation and cognitive impairments. **B. Diamond**. Feinstein Inst. for Med. Res.
- 10:55 Neuro-immune cell interactions that drive atopic dermatitis. **D. Bautista**. Univ. of California, Berkeley.

186. AUTOIMMUNITY, HYPERSENSITIVITY, AND TOLERANCE

Block Symposium

TUES. 8:00 AM—ROOM 17AB

CHAIRS: R.Q. Cron, M. Serena Longhi

- 8:00 Novel *UNC13D* intronic variant disrupting a NFκB enhancer in a patient with recurrent macrophage activation syndrome and systemic juvenile idiopathic arthritis. **R. Cron, G. Schulert, M. Zhang, A. Husami, N. Fall, H. Brunner, K. Zhang and A. Grom**. Univ. of Alabama, Birmingham and Cincinnati Children's Hosp. Med. Ctr. (45.21)
- 8:15 Hypoxia boosts Th17-cell responses in inflammatory bowel disease through increased efflux of ligands reactive with the aryl-hydrocarbon-receptor. **M.S. Longhi, A. Xie, R. Robles, H. Zhang, E. Csizmadia, Y. Wu, A. Moss and S. Robson**. Harvard Med. Sch. and Beth Israel Deaconess Med. Ctr. (45.15)
- 8:30 Single-cell RNA sequencing of skin and kidney cells in lupus nephritis provides insights into pathogenesis and indicates novel potential biomarkers. **E. Der, H. Suryawanshi, S. Ranabothu, B. Goilav, H.M. Belmont, P. Izmirly, N. Bornkamp, N. Jordan, T. Wang, M. Wu, J. James, J. Guthridge, S. Raychaudhuri, J. Buyon, T. Tuschl and C. Putterman**. Albert Einstein Col. of Med., Rockefeller Univ., Montefiore Med. Ctr., New York Univ. Sch. of Med., Oklahoma Med. Res.Fdn. and Broad Inst. of MIT and Harvard. (45.3)
- 8:45 Soluble LOX-1: a potential biomarker for SLE and cardiovascular comorbidity. **D. Sagar, R. Gaddipati, E. Ongstad, S. Rahman, M. Belkhdja, N. Bhagroo, L. An, S. Hasni, R. Siegal, M. Sanjuan, R. Kolbeck, S. Karathanasis, G. Sims and R. Gupta**. MedImmune and NIAMS, NIH. (45.1)
- 9:00 IRF5 hyper-activation is a driver of systemic lupus erythematosus (SLE) onset and severity. **B. Barnes, S. De, S. Song and V. Nelson**. Feinstein Inst. for Med. Res. (45.6)

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Since 1916

- 9:15 Blood-based untargeted metabolomics in Relapsing-Remitting Multiple Sclerosis revealed testable therapeutic target. **S. Giri, L. Poisson, J. Singh, I. Datta, H. Suhail, A. Mangalam, M. Cerghet, S. Elias and R. Rattan.** Henry Ford Hlth. Sys. and Univ. of Iowa Carver Col. of Med. (45.24)
- 9:30 Validation and discovery of mechanisms that promote vitiligo pathogenesis using single-cell RNA-sequencing of cells isolated from skin interstitial fluid. **J. Strassner, K. Gellatly, M. Rashighi, M. Ahmed, P. McDonel, M. Garber and J. Harris.** Univ. of Massachusetts Med. Sch. (45.25)
- 9:45 Natural killer cell dysregulation underlies atopic dermatitis. **M. Mack, J. Brestoff, H. Niu, T. Whelan, L. Oetjen, N. Bodet, F. Wang, A Xu, E. Park, D. Margolis, W. Yokoyama and B. Kim.** Washington Univ. Sch. of Med. in St. Louis, Washington Univ. Sch. of Med., Cincinnati Children's Hosp. Med. Ctr. and Perelman Sch. of Med., Univ. of Pennsylvania. (45.37)

187. INNATE IMMUNE CELLS AND MECHANISMS

Block Symposium

TUES. 8:00 AM—ROOM 10AB

CHAIRS: D. Stetson, C. Pasare

- 8:00 cIAP1/2-TRAF2- SHP1- Src-MyD88 complex regulates LPS-induced IL-27 production through NFκB activation in human macrophages. **A. Kumar, A. Busca, N. Gajanayaka and J. Angel.** Univ. of Ottawa, Canada and Ottawa Hlth. Res. Inst., Canada. (49.3)
- 8:15 CD38: biomarker and functional role in human macrophages. **M. Guerau-De-Arellano, S. Amici, N. Young, T. Papenfuss, J. Torrelles and W. Jarjour.** Ohio State Univ. Col. of Med., Ohio State Univ., Ohio State Univ. Col. of Vet. Med. and Texas Biomed. Res. Inst. (49.4)
- 8:30 Neutrophil cathepsin G inhibits hapten-presenting dendritic cell production of IL-12 and skewing of hapten-reactive CD4 T Cell development to IFN-γ and IL-17-producing effector cells in allergic contact sensitivity. **D. Kish, S. Min and R. Fairchild.** Cleveland Clin. and Swarthmore Col. (49.6)
- 8:45 Histone h4 as a trigger for innate immune cells. **I-N. Hsieh, M. White, X.D. Luna and K. Hartshorn.** Boston Univ. Sch. of Med. and Boston Med. Ctr. (49.24)
- 9:00 A novel methodology to modulate immune environment using synthetic mRNA. **Y. Xu, L. Huang, J. Kirschman, D. Vanover, P. Tiwari, P. Santangelo, X. Shen and D. Russell.** Cornell Univ., Georgia Inst. of Technol. and Duke Univ. (49.12)
- 9:15 Lactic acid suppresses LPS-induced cytokine production in mast cells by limiting glycolysis and ATP availability. **H. Caslin, D. Abebayehu, A.A. Qayum, A. Hoferlin and C. Chalfant.** Virginia Commonwealth Univ. and Univ. of South Florida. (49.23)

188. PATHOGEN CONTROL AND EVASION STRATEGIES

Block Symposium

TUES. 8:00 AM—ROOM 16AB

CHAIRS: R. Vance, L.J. Jin

- 8:00 Glutathione Reductase Promotes Fungal Clearance and Suppresses Inflammation During Systemic *Candida albicans* Infection. **Y. Liu, V. Kim, J. Li, A. Batty, S. Crowell, Y. Jin, J. Zhang and L. Nelin.** The Res. Inst. at Nationwide Children's Hosp., The Ohio State Univ. Col. of Med. and Univ. of Iowa Carver Col. of Med. (50.1)
- 8:15 The host ubiquitin system in innate immunity and virus replication: proviral and antiviral functions of the host E3-ubiquitin ligase TRIM family. **R. Rajsbaum, M. Giraldo, P. Bharaj, C. Atkins, H. Xia, S. Rossi, B. Lee, P-Y. Shi, and A. Freiberg.** Univ. of Texas Med. Br., Galveston and Icahn Sch. of Med., Mount Sinai. (50.3)
- 8:30 cGAS-STING activation in Ly6Chi monocytes induces IFNγ during pulmonary pneumococcal infection. **S. Patel, H. Tucker, S. Mansouri, S. Blaauboer and L. Jin.** Univ. of Florida and Albany Med. Col. (50.5)
- 8:45 Mechanisms Regulating IL-1β Mediated Inflammation during Secondary Bacterial Pneumonia. **C. Lupfer, A. Rodriguez, T. Freeman, M. Rippee-Brooks, H. Abysalamah, A. Smith, J. McCullers and T-D. Kanneganti.** Missouri State Univ., Univ. of Tennessee Hlth. Sci. Ctr. and St.Jude Children's Res. Hosp. (50.6)
- 9:00 Inhibition of mTORC1 activity is required for the IL-12p40 response of classical CD16^{NEG} CD14⁺ primary human monocytes to *Toxoplasma gondii*. **A.M.T.S. Amancio, L. Mittereder, A. Carletti, A. Sher and D. Jankovic.** NIAID, NIH. (50.10)
- 9:15 Metabolic barriers underlie interferon gamma-mediated restriction of intracellular bacterial pathogenesis. **J. Price, L. DiPeso, D. Nomura and R. Vance.** Oberlin Col., Univ. of Washington and Univ. of California, Berkeley. (50.11)
- 9:30 A double edge function of type 17 immunity in *Streptococcus pneumoniae* pathogenesis during a co-infection with Influenza A Virus. **N. Khan, I. Sohail, T. Schmit and B. Jacobson.** Univ. of North Dakota. (50.13)
- 9:45 SLAMF9 promotes inflammation and resistance to Salmonella infection. **T. Wilson, S. Clare, P. Lyons, G. Dougan and K. Smith.** Miami Univ., Wellcome Trust Sanger Inst., United Kingdom and Univ. of Cambridge, United Kingdom. (50.21)

189. TECHNOLOGICAL INNOVATIONS II

Block Symposium

TUES. 8:00 AM—ROOM 12AB

CHAIRS: D. Margulies, S. Ward

- 8:00 Functional Interrogation and Mining of Natively-Paired Human V_H : V_L Antibody Repertoires. **B. DeKosky, B. Wang, M. Timm, J. Lee, E. Normandin, J. Misasi, R. Kong, J. McDaniel, G. Delidakis, K. Leigh, T. Niezold, A. Ploquin, E. Viox, A. Fahad, A. Cagigi, K. Leung, E.S. Yang, W-P Kong, W. Voss, A. Schmidt, M.A. Moody, D. Ambrozak, A. Henry, F. Laboune, J. Ledgerwood, B. Graham, M. Connors, D. Douek, N. Sullivan, A. Ellington and G. Georgiou.** Univ. of Kansas, NIAID, NIH, Univ. of Texas, Austin, Boston Children's Hosp., Harvard Med. Sch., Duke Univ. Sch. of Med. and NIAID, NIH. (174.2)
- 8:15 Phosphoproteomic Analysis Reveals New SLP76 and PLCg1 Feedback Pathways That Regulate Lck in T Cells. **A. Salomon, J. Belmont, T. Gu and Q. Ji.** Brown Univ. (174.6)
- 8:30 Immortalization of splenic and peripheral blood macrophages using a multi-cistronic v-Raf/v-Myc lentivirus. **C. Beauregard, C. Broder and B. Schaefer.** Uniformed Serv. Univ. of the Hlth. Sci. (174.11)
- 8:45 Tetracysteine tagged OVA₍₃₂₃₋₃₃₉₎ peptide as a novel tool for visualizing peptide-MHCII complexes in primary mouse cells. **J.A. Souz, M. Akkaya, R. Kamdar, O. Kamenyeva, E. Shevach and B. Akkaya.** NIAID, NIH. (174.20)
- 9:00 Biomarker prediction to anti-PD-1 immunotherapy by using high dimensional single cell analysis. **C. Krieg, M. Nowicka, S. Guglietta, S. Schindler, F. Hartmann, L. Weber, R. Dummer, M. Robinson, M. Levesque and B. Becher.** Med. Univ. of South Carolina, Univ. of Zurich, Switzerland, European Inst. of Oncology, Italy, Univ. Hosp. Zurich, Switzerland and Stanford Univ. (174.26)
- 9:15 A high-resolution, genome-scale promoter interactome in human T follicular helper cells implicates novel causal genes at SLE GWAS loci. **A. Wells, M. Johnson, E. Manduchi, C.L. Coz, M. Leonard, S. Lu, K. Hodge, N. Romberg, A. Chesi and S. Grant.** Univ. of Pennsylvania. (174.29)

190. THERAPEUTIC ANTIBODIES AND IMMUNOMODULATORS

Block Symposium

TUES. 8:00 AM—ROOM 18ABCD

CHAIRS: T. Bullock, L. Emens

- 8:00 Altering the cytokine profile in the pancreatic cancer microenvironment with heat shock protein-90 inhibitors to enhance immunotherapy. **G. Lesinski, Y. Zhang, M. Farren, H. Komar, B. Ware, B. Olson, M. Zaidi, G. Nagaraju, M. Akce, O. Alese, W. Shaib, C. Wu and B. El-Rayes.** Emory Univ. (58.7)
- 8:15 Changes of immune profile following nanosecond electric pulse treatment for pancreatic cancer. **S. Guo, N. Burcus, J. Hornef, Y. Jing, C. Jiang, R. Heller and S. Beebe.** Old Dominion Univ. (58.23)
- 8:30 Expression optimization and functional testing of a scorpion toxin/antibody fragment fusion protein, ACDClx, for the immunotherapeutic treatment of glioblastoma. **R. Cook, A. Diamos, H. Mason, R. Sirianni, T. Mor and J. Blattman.** Arizona State Univ. and Barrow Neurological Inst. (58.12)
- 8:45 Priming with percutaneous bacillus Calmette-Guerin (BCG) prior to intravesical BCG treatment safely improves BCG-specific response in patients with bladder cancer. **N. Ji, N. Mukherjee, E. Morales, M. Tomasini, V. Hurez, T. Curiel, G. Abate, D. Hoff, X-R. Zhao, M. Sourindra, L. Cooper and R. Svatek.** Univ. of Texas Hlth. Sci. Ctr., San Antonio, St. Louis Univ. and M.D. Anderson Cancer Ctr. (58.13)
- 9:00 Drugging drug resistance with bystander-assisted immunotherapy. **R. Mancini, A. Nielsen, J. Hantho and A. Burt.** Washington State Univ. (58.22)
- 9:15 Agonist Redirected Checkpoint (ARC), SIRP α -Fc-CD40L, for Cancer Immunotherapy. **G. Fromm, S. de Silva, A. Patel, K. Johannes, J. Hornblower and T. Schreiber.** Shattuck Labs, Inc. (58.18)
- 9:30 Using anti-CD38 immunotherapy to enhance anti-tumor T-cell immunity in chronic lymphocytic leukemia (CLL). **A. Manna, L. Lewis-Tuffin, S. Ailawadhi, A. Chanan-Khan and A. Paulus.** Mayo Clin., Florida. (58.17)
- 9:45 Activation of the CD137 Pathway in T cells by a CD137 x 5T4 bispecific ADAPTIR Molecule Requires Co-engagement of CD137 and 5T4. **G. Blahnik-Fagan, R. Bader, J. Bannink, D. Mitchell, L. Misher, C. McMahan, D. Bienvenue, S. Fritzell, A. Säll, L.v. Schantz, P. Ellmark, M. Nelson and G. Hernandez-Hoyos.** Aptevo Therapeutics Inc. and Alligator Bioscience AB, Sweden. (58.21)

No photography of any sort is allowed in lecture or poster sessions.

191. IMMUNE RESPONSES TO VIRUSES IN THE RESPIRATORY TRACT

Block Symposium

TUES. 8:00 AM—ROOM 19AB

CHAIRS: A. Guerrero-Plata, R. Langlois

- 8:00 Detrimental role of type I interferon signaling in respiratory syncytial virus infection. **M. Ansar, N. Komaravelli, T. Ivanciuc, A. Casola and R. Garofalo.** Univ. of Texas Med. Br., Galveston. (60.6)
- 8:15 Role of mucin 19 in the respiratory tract. **K. McBride, N. Cheemarla and M. Guerrero-Plata.** Louisiana State Univ. and Louisiana State Univ., Baton Rouge. (60.8)
- 8:30 Nlrp12 mediates adverse neutrophil recruitment during influenza virus infection. **E. Hornick, B. Banoth, A. Miller, Z. Zacharias, N. Jain, M. Wilson, K. Gibson-Corley, K. Legge, G. Bishop, F. Sutterwala and S. Cassel.** Univ. of Iowa and Cedars-Sinai Med. Ctr. (60.3)
- 8:45 Early transcriptional responses to influenza virus infections in vivo. **R. Langlois, L. Sjaastad, E. Fay, M. Maccietto and S. Shen.** Univ. of Minnesota Med. Sch. (60.7)
- 9:00 GITR/GITRL interaction in the lung provides signal 4 for T cell expansion and T_{RM} formation. **K.L. Chu, K.C. Wang, N. Batista, D. Clouthier, A. Zhou and T. Watts.** Univ. of Toronto, Canada. (60.1)
- 9:15 Single-cycle respiratory syncytial virus infection induces robust adaptive immune responses and reduces disease severity in mice. **M. Schmidt, A. Oomens and S. Varga.** Univ. of Iowa and Oklahoma State Univ. (60.2)
- 9:30 Disease manifestations with immune alteration by bacterial neuraminidases in influenza virus infection with *Streptococcus pneumoniae* superinfection. **Avijit Dutta, Ching-Tai Huang, Yu-Chia Hseih, Tse-Ching Chen, Chun-Yen Lin, Yung-Chang Lin, C-S. Chang, Y-C. He, Y-L. Huang and T-A. Chen.** Chang Gung Mem. Hosp., Taiwan, (60.5)
- 9:45 Viral MHC class I inhibition evades protective tissue-resident memory CD8⁺ T cells (T_{RM}) and influences T_{RM} immunodominance within specific niches. **E. Lauron, L. Yang, M. Bern, G. Williams, A. Boon and W. Yokoyama.** Washington Univ. Sch. of Med. in St. Louis. (60.4)

192. ASTHMA, LUNG INFLAMMATION, AND IMMUNITY

Block Symposium

TUES. 10:15 AM—ROOM 10AB

CHAIRS: M.H. Grayson, N. Heller

- 10:15 Influenza A virus infection causes chronic lung disease linked to IL-13 and mucin expression at sites of viral remnants. **S. Keeler, E. Agapov, M. Hinojosa, A. Letvin, K. Wu and M. Holtzman.** Washington Univ. in St. Louis. (44.10)
- 10:30 Reducing airway constriction and inflammation through GABA_A receptors in the lung with a novel, orally available drug candidate. **A. Nieman, G. Forkuo, N. Zahn, R. Kodali, G. Li, M.S. Roni, M. Stephen, T. Harris, R. Jahan, M. Guthrie, O. Yu, J. Fisher, G. Yocum, C. Emala, D. Steeber, D. Stafford, J. Cook and L. Arnold.** Univ. of Wisconsin, Milwaukee, Univ. of South Carolina Sch. of Med. and Columbia Univ. (44.11)
- 10:45 IRF4 expression by lung dendritic cells promotes allergic Th2 responses by controlling OX40L, IL-10, and IL-33 expression during sensitization. **D. Camacho, C. Howard, E. Darnell, E. Wang, C. Hrusch and A. Sperling.** Univ. of Chicago. (44.12)
- 11:00 MARCH1 plays an indispensable role in the development of airway allergic immunity and asthma. **C. Castellanos, X. Ren, X. Huang and J-S. Shin.** Univ. of California, San Francisco. (44.13)
- 11:15 Pre-existing atopy protects mice from paramyxoviral respiratory infection weight loss. **S-R. Hussain, M. Rohlfing, J. Santoro and M. Grayson.** Nationwide Children's Hosp. and Ohio State Univ. Col. of Med. (44.14)
- 11:30 IL-27 controls allergic airway inflammation via Foxp3⁺ regulatory T cells. **Q.T. Nguyen and B. Min.** Dept. of Immunology, Lerner Res. Inst. and Cleveland Clin. Fndn. (44.15)
- 11:45 The lung hematopoietic niche supports bone marrow-independent hematopoiesis and contributes to local eosinophil expansion during allergic inflammation. **B. Jeong, M. Coden, T. Doan, S. Chiarella, R. Rodriguez and S. Berdnikovs.** Feinberg Sch. of Med., Northwestern Univ. (44.16)
- 12:00 The P2Y purinoceptor, P2Y₁₄R, promotes AHR in an animal model of asthma. **Tadeusz Karcz, Hideki Nakano, K. Jacobson and D. Cook.** NIEHS, NIH and NIDDK, NIH. (44.19)

Please remember to silence your cell phones in sessions.

193. INNATE LEUKOCYTE RESPONSES

Block Symposium

TUES. 10:15 AM—ROOM 17AB

CHAIRS: D. Sagar, S. Katz

- 10:15 Liver-specific programming of myeloid cells promotes intrahepatic immunosuppression. **P. Guha, J. Gardell, M. Lopes, N. Espat and S. Katz.** Boston Univ. Sch. of Med. (46.13)
- 10:30 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD)-induced myeloid derived suppressor cells (MDSC) have heightened metabolic activity which correlates with microRNA and gene expression involved in immunosuppression. **W. Neamah, P. Nagarkatti and M. Nagarkatti.** Med. Univ. of South Carolina. (46.1)
- 10:45 Spanning tree progression analysis of density normalized events (SPADE) identification of novel myeloid derived suppressor cells (MDSC) subsets. **J. Talmadge, P. Warkentin, H. Briitton, L. Klassen and K. Cole.** Univ. of Nebraska Med. Ctr. (46.14)
- 11:00 A novel kynurenine-dependent circuit in DC1 promote IDO1 expression in DC2 leading to experimental autoimmune encephalomyelitis suppression. **M. Gargaro, G. Scalisi, C. Briseño, G. Manni, V. Durai, P. Bagadia, P. Puccetti, T. Murphy, K. Murphy, and F. Fallarino.** Univ. of Perugia, Italy, Washington Univ. in St. Louis, Sch. of Med., Howard Hughes Med. Inst. and Washington Univ. in St. Louis Sch. of Med. (46.19)
- 11:15 Non-canonical autophagy mediates immunosuppression during challenge. **J. Martinez.** NIEHS, NIH. (46.6)
- 11:30 Aging-associated alterations in lymphatic vessels and mast cells in perilymphatic tissues. **S. Pal, C. Meininger, O. Gasheva, W. Griffith, D. Zawieja and A. Gashev.** Texas A&M Hlth. Sci. Ctr. (46.9)
- 11:45 Use of fluorescent Fab/Ab complexes and IncuCyte live-cell analysis to dynamically track cell surface markers and cell populations in mixed cultures. **G. Lovell, N. Bevan, H. Campwala, V. Blancheteau, T. Dale, N. Dana, N. Holtz, E. Endlsey and D. Trezise.** Essen BioScience Ltd, United Kingdom and Essen BioScience Inc., (46.11)
- 12:00 Tart cherry extract improves skeletal muscle recovery by increasing type II MHC expression, MCP-1 and HGF secretion, and attenuating ROS production by neutrophils. **M. Pelletier, K. Szymczak, A. Barbeau, E. Bishop, B. Johnson, A. Lee, K. O'Fallon and P. Gaines.** Natick Soldier Res., Develop. and Engin. Ctr. and Univ. of Massachusetts Lowell. (46.20)

194. INFLAMMASOMES

Block Symposium

TUES. 10:15 AM—ROOM 12AB

CHAIR: A. Rongvaux, N. Subramanian

- 10:15 The oxidized phospholipid oxPAPC ameliorates septic shock by targeting the non-canonical inflammasome in macrophages. **L. Chu, M. Indramohan, R. Ratsimandresy, A. Gangopadhyay, E. Morris, D. Monack, A. Dorfleutner and C. Stehlik.** Feinberg Sch. of Med., Northwestern Univ. and Stanford Univ. (115.12)
- 10:30 Platelet activating factor as a novel danger signal for activation of NLRP3 inflammasome. **M. Deng, W.J. Brickey, H. Guo, J. Tam, B. Johnson, J.S. New, B. Koller, J. Kearney and J. Ting.** Univ. of North Carolina at Chapel Hill, Lineberger Comprehensive Cancer Ctr., Univ. of Alabama, Birmingham. (115.13)
- 10:45 The Heat Shock Protein, gp96, initiates inflammatory responses by activation of inflammasome signaling platforms in macrophages. **Y. Wang and R. Binder.** Univ. of Pittsburgh Sch. of Med. and Tsinghua Univ., China. (115.4)
- 11:00 Mitochondrial SLC25 proteins interact with NLRP3 to regulate inflammasome function. **A. Shuvarikov, M. Davis, K. Esser-Nobis and M. Gale.** Univ. of Washington. (115.8)
- 11:15 Inflammasomes confer protection via IL-18 and pyroptosis, and are negatively regulated by IFN- γ -dependent nitric oxide during *Brucella* infection. **C. Lacey, W. Mitchell and J. Skyberg.** Univ. of Missouri. (115.11)
- 11:30 Interplay between type I interferon signaling and AIM2 inflammasome in *Francisella novicida* infection. **Q. Zhu and T-D. Kanneganti.** Univ. of Tennessee Hlth. Sci. Ctr. and St. Jude Children's Res.Hosp. (115.1)
- 11:45 Gasdermin-D controls cytokine responses in *Francisella* infection. **I. Banerjee, B. Behl, G. Shrivastava, A. Russo, S.K. Vanaja and V. Rathinam.** Univ. of Connecticut Hlth. Ctr. and Centro de Investigación y de Estudios Avanzados, Mexico. (115.14)
- 12:00 Pysin Inflammasome Regulates Tight Junction Integrity to Restrict Colitis and Tumorigenesis. **D. Sharma, A. Malik, C. Guy, P. Vogel and T-D. Kanneganti.** St.Jude Children's Res. Hosp. (115.7)

195. MUCOSAL IMMUNE REGULATION BY MICROBIOTA AND DIET

Block Symposium

TUES. 10:15 AM—ROOM 19AB

CHAIRS: J.L. Round, R. Newberry

- 10:15 Immune-microbiome axis regulates liver inflammation. **P. Castillo, P. Kumar, T. Hand and J. Kolls.** Children's Hosp. of Pittsburgh, Univ. of Pittsburgh Sch. of Med., Stony Brook Univ. and Tulane Univ. Sch. of Med. (53.1)
- 10:30 Dietary dampening of epithelial MHC-II expression enhances intestinal tumorigenicity. **S. Beyaz.** Cold Spring Harbor Lab. (53.2)
- 10:45 The delivery of luminal substances across small intestinal epithelium via goblet cell associated antigen passages is increased in the presence of dietary gliadin. **K. McDonald, K. Knoop, D. Kulkarni, J. Gustafsson, M. Miller and R. Newberry.** Washington Univ. Sch. of Med. in St. Louis. (53.3)
- 11:00 Food allergy is associated with altered epithelial gene expression driven by early life dysbiosis. **C. Plunkett, T. Feehley, R. Bao, P. Belda-Ferre, S.M.C. Hong, E. Campbell, R. Aitoro, R. Nocerino, L. Paparo, D. Antonopoulos, J. Andrade, R.B. Canani and C. Nagler.** Univ. of Chicago, Univ. of Naples Federico II, Italy and Argonne Natl. Lab. (53.4)
- 11:15 Exposure to microbial antigens during early life is required for the establishment of tolerance to commensal bacteria. **K. Knoop, J. Gustafsson, K. McDonald, C-S. Hsieh, S. Hogan, C. Elson, P. Tarr and R. Newberry.** Washington Univ. Sch. of Med. in St. Louis, Cincinnati Children's Hosp. Med. Ctr. and Univ. of Alabama, Birmingham. (53.5)
- 11:30 Commensal gut fungi regulate susceptibility to colitis and colorectal cancer. **A. Malik, D. Sharma, P. Vogel and T-D. Kanneganti.** St Jude Children's Res. Hosp. (53.6)
- 11:45 Moving beyond microbiome-wide associations to causal microbe identification. **N. Surana and D. Kasper.** Boston Children's Hosp. and Harvard Med. Sch. (53.7)

196. T CELLS IN TUMOR IMMUNITY AND IMMUNOTHERAPY

Block Symposium

TUES. 10:15 AM—ROOM 18ABCD

CHAIRS: L. Sanchez-Perez, T. Webb

- 10:15 Tumor cell-intrinsic MHC class II expression as a determinant of immunotherapy responsiveness in an orthotopic mouse model of non-small cell lung cancer. **E. Clambey, A. Johnson, A. Neuwelt, A. Kimball, R. Kaspar, B. Bullock, J. Kwak, J. Poczobutt, H. Li and R. Nemenoff.** Univ. of Colorado Sch. of Med. (57.1)
- 10:30 IL-21 selectively protects CD62L⁺ NKTs from activation-induced cell death during ex vivo expansion and enhances antitumor activity of NKT cell therapy in vivo. **H. Ngai, G. Tian, A. Courtney, E. Marinova, W. Huang, L. Guo, B. Liu and L. Metelitsa.** Baylor Col. of Med. (57.6)
- 10:45 Unbiased testing of several hundred tumor-specific single nucleotide variants of a tumor for protective immunogenicity and CD8⁺ response reveals surprises. **C. Brennick, M. George, A. Hagymasi, T. Shcheglova, S.A. Seesi, I. Mandoiu and P. Srivastava.** Univ. of Connecticut Hlth. Ctr., Carole and Ray Neag Comprehensive Cancer Ctr. and Univ. of Connecticut. (57.15)
- 11:00 Population dynamics of tumor-specific CD8 T cell differentiation from plastic to fixed dysfunctional states. **M. Philip, M. Pilkinton, R. Ramesh, W. McDonnell, R. Gangula, S. Camara, A. Chopra, A. Schietinger and S. Mallal.** Vanderbilt Univ. Sch. of Med., Murdoch Univ., Australia and Mem. Sloan Kettering Cancer Ctr. (57.19)
- 11:15 De novo DNA methylation programs restrain T cell rejuvenation during immune checkpoint blockade therapy. **B. Youngblood, H. Ghoniem, A. Moustaki, H. Abdelsamed, Y. Fan, P. Thomas, S. Federico and E. Stewart.** St. Jude Children's Res. Hosp. (57.21)
- 11:30 The impact of TCR affinity on T cell differentiation and dysfunction in tumors. **M. Shakiba, M. Philip, S. Camara, N. Soggi and A. Schietinger.** Mem. Sloan Kettering Cancer Ctr. and Vanderbilt Univ. Sch. of Med. (57.24)
- 11:45 Mutation of the CD28 costimulatory domain confers increased CAR T cell persistence and decreased exhaustion. **J. Boucher, G. Li, B. Shrestha, Y. Zhang, P. Vishwasrao, M. Cabral, L. Guan, M. Davila.** H. Lee Moffitt Cancer Ctr. and Res. Inst., Univ. of South Florida and Univ. of South Florida Morsani Col. of Med. (57.28)
- 12:00 Manipulating the epigenetic framework of T cells with histone deacetylase inhibitors for more robust and durable anti-tumor responses. **T. McCaw, M. Liu, M. Li, D. Starenki, S. Cooper, R. Arend, A. Forero, D. Buchsbaum and T. Randall.** Univ. of Alabama, Birmingham and HudsonAlpha Inst. for Biotech. (57.41)

197. CYTOKINES/CHEMOKINES AND THE INNATE IMMUNE RESPONSE TO VIRUSES**Block Symposium**

TUES. 10:15 AM—ROOM 16AB

CHAIRS: P. Thomas, T. Reese

- 10:15 IL-1 cytokines promote ADAMTS-mediated remodeling of the lung extracellular matrix during severe influenza A infection in mice. **D. Boyd, X. Guo and P. Thomas.** St. Jude Children's Res. Hosp. (126.1)
- 10:30 *Nmp4*-deficiency protects mice from influenza A virus infection. **S. Yang, M. Adaway, J. Sun, J. Bidwell and B. Zhou.** Indiana Univ. Sch. of Med. and Mayo Clin. (126.4)
- 10:45 Z-DNA binding protein 1 (ZBP1) is an innate sensor of Influenza vRNPs and activates programmed cell death and assembly of NLRP3 inflammasome. **K. Sannula, T. Kuriakose, P. Samir, R.K.S. Malireddi and T-D. Kanneganti.** St. Jude Children's Res. Hosp. (126.5)
- 11:00 A nuclear receptor involved in cholesterol metabolism regulates herpesvirus latency and reactivation. **T. Reese, L. Tao, A. Lowe, G. Wang and C. Zarek.** Univ. of Texas Southwestern Med. Ctr. (126.8)
- 11:15 Immunoprotective $\gamma\delta$ T cell subsets in the cornea during early HSV-1 infection. **S. Fitzpatrick, R. Lausch and R. Barrington.** Univ. of South Alabama. (126.2)
- 11:30 Cytomegalovirus blockade of TRAIL-mediated type 1 ILC defenses regulates viral persistence. **G. Picarda, B. McDonald, G. Dodard, S. Verma, R. Ghosh, R. Morabiti, N. Thiault, L. Brossay, T. Griffith and C. Benedict.** La Jolla Inst. for Allergy and Immunology, Brown Univ. and Univ. of Minnesota. (126.3)
- 11:45 Interleukin-36 cytokines regulate antiviral immunity in the skin and keratinocytes. **L. Jensen and P. Wang.** Temple Univ. Sch. of Med. (126.7)
- 12:00 Natural killer cell regulation of HIV vaccine responses. **C. Rydzynski, J. McNally, I. Gyurova, S. Cranert and S. Waggoner.** Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati Col. of Med. (126.6)



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The following presenters have submitted disclosures. The numbers following each name represent the specific relationships above. The number in parenthesis represents the session number or abstract number. Disclosure is reprinted here as it was submitted by the presenter; if a presenter is not listed they have no relationships to disclose or did not submit a Speaker Disclosure Form.

Invited and Guest Symposia Speakers:

Alici, E., Cellprotect Nordic Pharmaceutical; Vycellix; TNK Therapeutics; Sorrento Therapeutics; SAB Roles; Celgene Cellular Therapies; Dragon Biologicals; Hope Biosciences; Merck; Janssen; Celgene Sweden; Novartis; Bluebird Bio; Affirmed—6; 6; 5, 6; 5, 7; 6; 5, 6, 7; 6; 6; 5, 7; 5, 7; 5; 5; 5; 7 (27)

Bhardwaj, N., Genentech; Merck—5; 3 (127)

Chan, A.C., Genentech—1,4,7 (39)

Chiu, I.M., Ipsen Pharmaceuticals; GlaxoSmithKline Pharmaceuticals—3; 5, 9 (185)

Curti, B., MedImmune; Alligator Bioscience; Prometheus; BMS; Vlralytics—3; 5; 3, 8; 8; 3 (11)

Demaria, S., Lytix Biopharma; Nanobiotix; AstraZeneca; AbbVie; StemImmune—3, 9; 5; 5; 5; 5 (127)

DiLillo, D.J., Regeneron Pharmaceuticals—1, 4 (39)

Emens, L., Johns Hopkins University; FDA-CTGTAC; Celgene; Vaccinex; Amgen; AstraZeneca; Syndax; Peregrine; Bayer; eThERNA; Molecuvax; Gritstone; Genentech; Roche; EMD Serono; MaxCyte; Merck; Aduro Biotech; Corvus; SITC—4; 4; 9; 9; 9; 3, 9; 9; 9; 9; 9; 9; 9; 3; 3; 3; 3; 2, 3; 3; 2; 7 (11)

Fong, L., Merck; BMS; Roche/Genentech; AbbVie—2; 2; 2; 2 (11)

Gaffen, S.L., Janssen Pharmaceuticals; Novartis; Lycera; AbbVie—3, 5; 3, 5; 9; 5 (32)

Greenberg, P.D., Juno Therapeutics—1, 2, 3, 5, 9 (127)

Griebel, P., Merck Animal Health—3, 5, 9 (25)

Haley, S.T., Immudex—1, 4, 7 (39)

Headley, M., Pionyr Immunotherapeutics—1, 4 (138)

Heeger, P.S., Alexion—3 (26)

Herzog, R.W., Applied Genetics Technology Corporation (AGCT); Spark

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James, S., Team Based Learning Collaborative—7 (23)
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Kolls, J.K., CFF; CFFT; Boehringer Ingelheim—3; 3; 5 (139)
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Ljunggren, H.-G., CellProtect; Nordic Pharmaceuticals;
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McMahan, C.J., Apero Therapeutics—1, 4 (39)
Mingozzi, F., Spark Therapeutics—6 (17)
Mishra, A., Kura Oncology; Bioniz Pharmaceuticals—3; 3 (27)
Mullins, D., Qu Biologics, Inc.—1, 3, 5, 9 (23)
Ohashi, P., Symphogen, Inc.; Providence Pharmaceuticals,
Inc.; Baxalta US Inc. (Shire); Lion Biotechnologies, Inc.—9;
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Ott, P.A., BMS; Neon Therapeutics; Merck; Novartis; Pfizer;
Celldex Therapeutics; Genentech—3, 5; 3, 5; 3, 5; 3, 5; 3, 5;
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Pickl, W., Biomay AG; Novartis; FWF; Med. Univ. of Vienna,
Austria; EFIS—1; 5; 3; 4; 7 (140)
Rathmell, J.C., Calithera Biosciences—3 (1)
Raulet, D.H., Dragonfly Therapeutics; Innate Pharma, SAS;
Aduro Biotech, Inc.; Ignite Therapeutics—1, 9; 1, 3, 9; 1, 3,
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Schreiber, R. D., Janssen; Novartis; Jounce Therapeutics;
Neon Therapeutics; BioLegend NGM—3; 5; 1; 1; 1 (127)
Sun, S.-C., Bridge Biotherapeutics—3 (32)
Sykes, M., Adaptive, Inc.—3 (31)
Tracey, K.J., SetPoint Medical Inc.—5 (185)
Turley, S.J., Genentech/Roche—4 (10)
Wagner, B., Zweig Fund for Equine Research—3 (25)

Abstract Author Disclosures:

Abassi, Y., ACEA Biosciences—4 (174.42)
Adams, H.H., Janssen Pharmaceuticals—4 (57.18)
Adams, R., aTyr Pharma—1, 4 (112.3)
Agorku, D.D., Miltenyi Biotec—4 (120.17, 120.19)
Aho, J.J., Bio-Techne—4 (46.16)
Ainslie, K.K., IMMvention Therapeutix—6 (58.11)
Akuffo, A.A., Celgene Corporation—3 (167.13)
Alese, O.B., Bristol Myers Squibb; Acetylon; Five Prime
Therapeutics; Tesaro, Inc.; Purdue Pharma—3; 3; 3; 3; 5
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Alexander, M., Bio-Rad Laboratories—4 (120.29)
Alford, K., Thermo Fisher Scientific—4 (120.37)
Alici, E., Vycellix Inc—6 (169.19)
Allen, D., MS Bioworks LLC—6 (99.13)
Allison, J.P., Amgen, Inc.; Bristol-Myers Squibb; Jounce
Therapeutics; Kite; Merck, Inc.; Neon Therapeutics—9; 1, 2,
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Altmann, T., Miltenyi Biotec GmbH—4 (181.4)
Alvarez, J.J., Johnson & Johnson—1 (175.18)
Alvarez, K.M., Molculera Labs; Janssen R&D—4 (166.49,
175.18)
Alvarez-Jares, H.H., AbbVie Biotherapeutics—4 (57.3)
Ampudia, J.J., aTyr Pharma—1, 4 (112.3)
Amunugama, R., MS Bioworks LLC—6 (99.13)
Amuzie, C.C., Janssen Pharmaceutical Companies of Johnson
& Johnson—4 (55.46)
Anania, V., Genentech—1,4 (60.16)
Andersen, M., Bio-Techne—4 (46.16)
Anderson, I.I., Johnson & Johnson, Janssen R&D—1; 4
(175.18)
Anderson, K.G., Juno Therapeutics, Inc.—3 (179.11)
Antignano, F.F., STEMCELL Technol., Inc.—4 (120.5)
Axtell, R.C., EMD Serono—8 (121.8)
Babu, P., Omni Array Biotechnology LLC—4 (120.31)
Bachelder, E.E., IMMvention Therapeutix—6
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Bader, R., Aptevo Therapeutics Inc.—4 (58.21)
Bagwell, C.B., Fluidigm Canada Inc.—5 (120.2)
Baig, S., Quanterix—4 (174.16)
Bailis, J.J., Amgen, Inc.—4 (57.46)
Baiocchi, R.A., Patent—10 (163.14)
Baltimore, D., Amgen, Inc.; PACT Pharma—7; 7 (181.9)
Bannink, J., Aptevo Therapeutics Inc.—4 (58.21)
Bansal, N., BD Biosciences—4 (120.11, 120.41)
Baranov, V., Fluidigm Inc—1, 4 (120.2)
Barr, C., STEMCELL Technol., Inc.—4 (174.7)
Barr, P.M., AbbVie Biotherapeutics; Gilead Science, Inc.;
Janssen Pharmaceutica; TG Therapeutics—5; 5; 5; 5 (56.4)
Barski, A., Datirium, LLC—6 (110.16)
Bazin-Lee, H., Vium, Inc.—4 (125.16)
Beatty, M.S., Celgene Corporation—3 (167.13)
Belmar, N., AbbVie Biotherapeutics—4 (57.3)
Bentley, R., Molculera Labs—4 (166.49)
Bergschneider, E., Miltenyi Biotec GmbH—4 (181.4)
Berkley, A.M., Genentech—4 (57.42)
Besin, G.G., ChemoCentryx, Inc.—4 (181.5)
Bess, L.L., Inimmune Corporation—4 (125.16)
Bethune, M.T., PACT Pharma—4 (181.9)
Bevan, N.N., Essen BioScience—4 (49.5)
Bienvenue, D., Aptevo Therapeutics Inc.—4 (58.21)
Birth, K.-M., Miltenyi Biotec GmbH—4 (181.4)
Blahnik-Fagan, G.R., Aptevo Therapeutics Inc.—4 (58.21)
Blazar, B.R., Kadmon Corporation—3 (55.43)
Bluestone, J.A., Juno Therapeutics, Inc.—3 (176.15)
Bochar, D., Cayman Chemical Company—4 (99.13)
Bodyak, N., Mersana Therapeutics—4 (122.29)
Bonnevier, J.L., Bio-Techne—4 (46.16)
Booth, R., EMD Millipore—4 (174.40)
Bosanac, T., Boehringer Ingelheim—4 (175.4)
Bradford, J.A., Thermo Fisher Scientific—4 (120.37)
Brampton, C., Bio-Rad Laboratories—4 (120.29)
Brauer, P., Takeda Pharmaceuticals—4 (122.29)
Brauner, J., Miltenyi Biotec—4 (120.17, 120.19)
Brehm, M.A., The Jackson Laboratory—5 (57.13, 103.20)
Briscoe, D.M., Compass Therapeutics—3, 5 (55.8)

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- Brody, J.D., Acerta Pharma; Celgene Corporation; Gilead Science, Inc; Immunogen; Janssen Pharmaceuticals; Merck, Inc.; Novavax; Seattle Genetics; Synergy Pharmaceuticals—3; 7; 5, 8, 9; 6; 5; 3, 5; 6; 5; 6 (56.17)
- Brown, B., iRepertoire Inc.—4 (174.36)
- Bryan, K.A., Chr Hansen—4 (59.21)
- Buaas, F.W., The Jackson Laboratory—4 (178.34)
- Buhl, C., Inimmune Corporation—4 (180.20)
- Buhrman, J., Mesoscale Discovery—4 (172.18)
- Buller, G., Thermo Fisher Scientific—4 (120.37)
- Burke, K., Moderna Therapeutics—4 (181.5)
- Burkhart, D.J., Inimmune Corporation—6 (125.16, 180.20)
- Byrne-Steele, M.L., iRepertoire Inc.—4 (174.36)
- Calderon, V., Thermo Fisher Scientific—4 (174.32)
- Campbell, J.J., ChemoCentryx, Inc.—4 (176.19)
- Campisi, A., ITUS Corporation—1, 4 (56.2)
- Caplazi, P., Genentech—4 (103.32)
- Carr, D.J.J., Rational Vaccines Inc.—9 (125.19)
- Carr, T.M., Celgene Corporation—4 (163.24)
- Casaccia, P., Biogen—3 (54.4)
- Chakrabarti, A., Genentech—1, 4 (60.16)
- Chan, L., Nexcelom Bioscience—4 (120.1)
- Chang, C., BD Biosciences—4 (120.11, 120.41)
- Chang, L., Quanterix—4 (164.23, 174.15, 174.16)
- Chao, G., Eli Lilly and Company—4 (47.25)
- Chen, A., Thermo Fisher Scientific—4 (174.32)
- Chen, C., EMD Millipore—4 (174.40)
- Chen, W., Kadmon Corporation—1, 4 (55.43, 167.11)
- Chen, Z., Merck, Inc.—4 (180.27)
- Chen, Z., Glaxo Smith Kline—3 (104.8)
- Child, R., Inimmune Corporation—4 (180.20)
- Chitnis, V., Mesoscale Discovery—4 (172.18)
- Chiu, C., Johnson & Johnson; Janssen Research & Development—1; 4 (175.18)
- Choi, D., AbbVie Biotherapeutics—4 (57.3)
- Chow, K., BioLegend, Inc.—4 (174.30)
- Chu, C.C., Pfizer—1 (56.4)
- Cole, S., Johnson & Johnson; Janssen Research & Development—1; 4 (175.18)
- Conforti Andreoni, C., Miltenyi Biotec GmbH—4 (181.4)
- Conlon, D., Abcam plc—4 (120.18)
- Cook, R., Genentech—4 (57.42)
- Coquery, C.M., Enzyvant Therapeutics—4 (166.21)
- Courtney, A.N., Cell Medica Ltd—3 (57.6)
- Cox, K.S., Merck, Inc.—4 (180.27)
- Cromwell, E., Protein Fluidics, Inc.—6 (42.15)
- Cron, R.Q., SOBI—3 (45.21)
- Cruz Tleugabulova, M., MBL International—4 (57.49)
- Cubitt, A., aTyr Pharma—1, 4 (112.3)
- Cunningham, M.W., Molculera Labs—6, 7 (166.49, 166.50)
- Cybulski, V., Inimmune Corporation—4 (125.16)
- Da Silva, S., Heat Biologics Inc.—1 (181.2)
- Daftarian, P.M., MBL International—4 (57.49)
- Dale, T., Essen BioScience—4 (49.5)
- Dang, T., ChemoCentryx, Inc.—4 (176.19)
- Daniels, B., Genentech—4 (175.10)
- Davis, T., Celldex Therapeutics—4 (56.17)
- De Block, G., Abcam plc—4 (120.18)
- de Jong, S., STEMCELL Technol., Inc.—4 (174.38)
- de Silva, S., Shattuck Labs, Inc.—1 (58.18, 58.19)
- Dedhar, S., Welichem Biotech—10 (56.27)
- Delcommenne, M.C., MBL BION—4 (57.49)
- Dere, E., Genentech—4 (175.10)
- Deutsch, H., Janssen Pharmaceutical Companies of Johnson & Johnson—4 (55.46)
- Dinney, C., FDK Pharmaceutical—3 (122.12)
- Dirk, M., Genentech—4 (175.10)
- Diz, R., Thermo Fisher Scientific—4 (120.37)
- Domanski, P., Cayman Chemical Company—4 (99.13)
- Dominguez, G.A., ITUS Corporation—4 (56.2)
- Donaldson, P., Thermo Fisher Scientific—4 (120.37)
- Dose, C., Miltenyi Biotec—4 (120.16, 120.17, 120.19)
- Dragos, Z., The Jackson Laboratory—4 (40.2)
- Dranka, B.P., Agilent Technologies—4 (49.26, 108.14)
- Dreja, H., Abcam plc—4 (120.18)
- Duffy, D., Quanterix—4 (174.16, 174.35)
- Dulubova, I., Reata Pharmaceuticals—4 (121.14)
- Duru, A.D., Vycellix Inc—6 (169.19)
- Dutta, B., AstraZeneca—4 (178.6)
- Dzionic, A., Miltenyi Biotec GmbH—4 (181.4)
- Eaves, A.C., BC Cancer Agency; STEMCELL Technol., Terry Fox Laboratory—10; 6; 10 (51.13, 103.4, 120.5, 174.38, 174.7)
- Ebsworth, K., ChemoCentryx, Inc—4 (176.19)
- Eidenschenk, C., Genentech—4 (175.10)
- Eisenhower, M., iRepertoire Inc.—4 (174.36)
- Ellmark, P., Alligator Bioscience AB—4 (58.21)
- El-Rayes, B., Bayer; Boston Biomedical; Bristol Myers Squibb; Exelixis, Inc.; Ipsen; Lexicon; Merck, Inc.; Novartis, Inc.; Roche—5; 3; 3; 3; 5; 5; 3; 3; 3; 5 (58.7)
- Epling-Burnette, P., Celgene Corporation—3 (167.13)
- Ertl, L.S., ChemoCentryx, Inc—4 (176.19)
- Ettenger, G., Inimmune Corporation—4 (180.20)
- Evans, J.T., Inimmune Corporation, Vium, Inc.—6; 4 (125.16, 180.20, 180.24)
- Evaristo, C., Miltenyi Biotec—4 (120.17, 120.19)
- Everett, C., Genentech—4 (175.10)
- Ewen, C., STEMCELL Technol., Inc.—4 (174.38)
- Fan, H.C., BD Biosciences—4 (120.11, 120.33, 120.41)
- Farr, G.W., Aeromics Inc.—7 (55.33)
- Fawcett, K.A., Thermo Fisher Scientific—9 (103.4)
- Fearon, U., Janssen R&D—3 (175.18)
- Ferguson, D., Reata Pharmaceuticals—4 (121.14)
- Ferrari, D., Selecta Biosciences—4 (55.44)
- Ferreira, L., Juno Therapeutics, Inc.—3 (176.15)
- Ferrell, E., Quanterix—4 (174.15)
- Fine, J.S., Boehringer Ingelheim—4 (175.4)
- Fink, M., Merck, Inc.—4 (180.27)
- Finkel, D., Bio-Techne—4 (46.16)
- Finney, A.C., AHA Predoctoral Fellowship—3 (166.37)
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- Foerster-Marniok, A., Miltenyi Biotec—4 (120.16)
- Fontenot, J.D., Juno Therapeutics, Inc.—4 (176.15)
- Ford, M.J., MS Bioworks LLC—6 (99.13)
- Forsyth, C., AbbVie Biotherapeutics—4 (57.3)
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- Fred, L., Mesoscale Discovery—4 (172.18)
- Freeman, G., AstraZeneca; Boehringer-Ingelheim; Bristol-Myers-Squibb; Dako; EMD-Serono; Merck, Inc.; Novartis, Inc.; Quiet; Roche; Xios—2; 2; 2; 9; 2; 2; 2; 9; 2; 9; 9 (57.9)
- French, R., The Jackson Laboratory—4 (40.2)
- Fritsch, E.F., Neon Therapeutics, Inc.—1, 4 (181.11)
- Fritzell, S., Alligator Bioscience AB—4 (58.21)

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- Fromm, G., Heat Biologics Inc.; Shattuck Labs, Inc.—1 (181.2, 58.18, 58.19)
- Frueh, K., Vir Biotechnology—5, 7 (179.8)
- Fu, F., Selecta Biosciences—4 (55.44)
- Fuhrman, K., NanoString—4 (120.24)
- Gabrilovich, D.I., ITUS Corporation—9 (56.2)
- Galitz, D., Bio-Techne—4 (46.16)
- Gao, C., Janssen Pharmaceutical Companies of Johnson & Johnson—4 (55.46)
- Gao, W., Antagen Pharmaceuticals, Inc.—4 (120.1)
- Gaukel, E.J., Enzyvant Therapeutics—4 (166.21)
- Gause, H., Genentech—4 (175.10)
- George, M., MBL International—4 (57.49)
- Georgiou, G., Kyn Therapeutics—6 (177.3)
- Ghadiali, J., BD Biosciences—4 (120.11, 120.41)
- Giffin, L., Heat Biologics Inc.—4 (181.2)
- Gilliam, B.E., MilliporeSigma—4 (120.27)
- Godeny, M., MilliporeSigma—4 (120.43)
- Gonzalez, L.E., Heat Biologics Inc.—4 (181.2)
- Goodheart, W.E., Celgene Corporation—3 (167.13)
- Gove, J., Gilead Science, Inc.—3 (166.4)
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- Greco, B., Merck Global Health—4 (174.28)
- Green, A.M., Bio-Rad Laboratories—4 (120.29)
- Greenberg, P.D., Juno Therapeutics, Inc.—3 (179.11)
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- Griset, A., Selecta Biosciences—4 (55.44)
- Grogan, J., Genentech—4 (57.42)
- Grom, A.A., Novartis, Inc.; NovImmune—5; 5 (45.21)
- Guan, L., Merck, Inc.—4 (180.27)
- Guenther, G., ACEA Biosciences—4 (174.42)
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- Guo, Y., Johnson & Johnson; Janssen R&D—1; 4 (175.18)
- Hacohen, N., Neon Therapeutics, Inc.—9 (181.11)
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- Haimes, J.D., ArcherDX—4 (120.30)
- Hamilton, B., Abcam plc—4 (120.18)
- Hammer, M., Molecular Devices, LLC—4 (42.15)
- Hammerbeck, C., Bio-Techne—4 (46.16)
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- Hanlon, D., Quantarix—4 (164.23, 174.15, 174.16)
- Hannigan, L., Reata Pharmaceuticals—4 (121.14)
- Hansen, S., Vir Biotechnology—5 (179.8)
- Harding, F.A., AbbVie Biotherapeutics—4 (57.3)
- Hardt, O., Miltenyi Biotec—4 (120.17, 120.19)
- Harkins, S.B., Mesoscale Discovery—4 (172.18)
- Harrison, T.D., ArcherDX—4 (120.30)
- Heaton, S., Abcam plc—4 (120.18)
- Heckötter, J., Miltenyi Biotec GmbH—4 (181.4)
- Heller, R., OncoSec Medical, Inc.—1, 9 (122.4)
- Henn, A.D., BioSpherix—4 (48.13)
- Hernandez-Hoyos, G., Aptevo Therapeutics Inc.—4 (58.21)
- Hesterberg, R., Celgene Corporation—3 (167.13)
- Hill, G.R., Roche—3 (55.2)
- Hinerfeld, D., NanoString—4 (120.24)
- Hitchcock, S., Janssen Pharmaceutical Companies of Johnson & Johnson—4 (55.46)
- Hoge, S., Merck, Inc.—3 (181.5)
- Höher-Peters, S., Miltenyi Biotec—4 (174.9)
- Hollenbaugh, D., AbbVie Biotherapeutics—4 (57.3)
- Hornblower, J., Shattuck Labs, Inc.—1 (58.18, 58.19)
- Horton, K., Takeda Pharmaceuticals—4 (122.29)
- Hou, X., iRepertoire Inc.—4 (174.36)
- Hoxha, O., Protein Fluidics, Inc.—1 (42.15)
- Hu, Y., Thermo Fisher Scientific—4 (174.32)
- Hu, J., BD Biosciences—4 (120.11, 120.41)
- Huang, F., Janssen Pharmaceuticals—4 (57.18)
- Huestis, M., Genentech—4 (175.10)
- Humeau, L., Inovio Pharmaceuticals—4 (180.7)
- Hunsberger, B.C., Fluidigm Inc—5 (120.2)
- Huszar, D., Takeda Pharmaceuticals—4 (122.29)
- Hutchins, J., Heat Biologics Inc.; Pelican Therapeutics—4 (181.2)
- Hutto, D., Vium, Inc.—4 (174.24)
- Ichim, C.V., Vium, Inc.—4 (174.24)
- Jachimowicz, L.A., ACEA Biosciences—4 (174.42)
- Jacobs, W.R., X-Vax—3 (164.10)
- Jasuja, R., Pelican Therapeutics—4 (181.2)
- Jeet, S., Genentech—4 (103.32)
- Jensen, D., BD Biosciences—4 (120.11, 120.41)
- Ji, S., BioLegend, Inc.—4 (174.30)
- Jiang, J., Genentech—1, 4 (60.16)
- Jiang, N., ImmuDX, LLC—9; 5 (122.25, 120.23)
- Jiang, X., Reata Pharmaceuticals—4 (121.14)
- Jingya, J., Kadmon Corporation—4 (167.11)
- Johannes, K., Shattuck Labs, Inc.—1 (58.18, 58.19)
- Johnson, J., Quantarix—4 (174.15, 174.16)
- Johnson, L., ArcherDX—4 (120.30)
- Johnston, L., Selecta Biosciences—4 (55.44)
- Jones, R., MS Bioworks LLC—6 (99.13)
- Jordon, E., Bio-Rad Laboratories—4 (120.29)
- Kam, Y., Agilent Technologies—4 (108.14)
- Kara, N., BD Biosciences—4 (120.25)
- Kartashov, A., Datirium, LLC—6 (110.16)
- Keler, T., Celldex Therapeutics—4 (56.17)
- Kenten, C., Mesoscale Discovery—4 (172.18)
- Kerry, M.-B.E., Moderna Therapeutics—4 (181.5)
- Khanolkar, A., BD-Biosciences; Shire—3; 3 (166.22)
- Khattar, M., Takeda Pharmaceuticals—4 (122.29)
- Kiesel, G., MilliporeSigma—4 (174.15)
- Kim, E., Amgen, Inc.—4 (57.46)
- Kim, J., Genentech—4 (57.42)
- Kim, S., Sungkyunkwan Uni—6 (108.26)
- King, D., aTyr Pharma; Kyowa Kirin Research—1, 4; 9 (112.3)
- Kishimoto, T.K., Selecta Biosciences—4 (55.44)
- Klein, E., Boehringer Ingelheim—4 (175.4)
- Klingenberg, S., Bio-Techne—4 (46.16)
- Koch, S., Abcam plc—4 (120.18)
- Kokaji, A.I., STEMCELL Technol., Inc.—4 (51.13, 120.5, 174.38)
- Kolnik, M., Miltenyi Biotec Inc—4 (174.9)
- Kolte, P., Selecta Biosciences—4 (55.44)
- Koval, S., Omni Array Biotechnology LLC—4 (120.31)
- Krai, P., Mesoscale Discovery—4 (172.18)
- Krishnan, K.V.V., Omni Array Biotechnology, LLC—5 (120.31, 126.25)
- Kudlow, B.A., ArcherDX—4 (120.30)
- Kumar, A., ITUS Corporation—1, 4, 7 (56.2)
- Kutny, P.M., The Jackson Laboratory—4 (178.34)
- Kyei, S.K., STEMCELL Technol., Inc.—4 (51.13, 120.5)
- Ladi, E., Genentech—4 (175.10)
- Lam, G., BD Biosciences—4 (120.41)
- Lam, R., BD Biosciences—4 (120.41)

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LaMothe, R., Selecta Biosciences—4 (55.44)
Le Fevre, T.A., STEMCELL Technol., Inc.—4 (103.4)
Lee, C.-W., Sungkyunkwan Uni—6 (108.26)
Lee, C.-Y.I., Reata Pharmaceuticals—1, 4 (175.22)
Lee, F., Amgen, Inc.—4 (57.46)
Lee, S., Meissa Vaccines Inc—3 (180.29)
Lee, S.-Y., Sungkyunkwan Uni—6 (108.26)
Lee, W., Genentech—4 (103.32)
Lees, A., Fina BioSolutions—6 (181.28)
Lehmann, J., BioLegend, Inc.—4 (174.30)
Leighton, K., The Jackson Laboratory—4 (40.2)
Leland, T., Selecta Biosciences—4 (55.44)
Lesinski, G.B., Merck, Inc.; ProDa Biotech, LLC; Vaccinex, Inc.—3; 5; 5 (58.7)
Leung, D., Eli Lilly and Company—4 (47.25)
Li, C., Patent—10 (163.14)
Li, S.K.H., Fluidigm Inc—1, 4 (120.2)
Lie, W.-R., MilliporeSigma—4 (120.43)
Lind, E.F., Janssen Pharmaceuticals; Amgen, Inc.; Celgene Corporation—3; 3; 3 (57.18)
Liu, J., Genentech—4 (103.32)
Liu, L., Reata Pharmaceuticals—4 (121.14)
Liu, S., ChemoCentryx, Inc—4 (176.19)
Liu, S., Genentech—1, 4 (60.16)
Livak, K.J., Integrated DNA Technologies, Inc.—5 (181.11)
Livesay, M., Inimmune Corporation—4 (125.16)
Lochead, J., Abcam plc—4 (120.18)
Lovell, G.F., Essen BioScience—4 (49.5)
Low, Q., Thermo Fisher Scientific—4 (174.32)
Lowinger, T.B., Mersana Therapeutics—4 (122.29)
Mac Gillivray, B., Kadmon Corporation—1, 4 (55.43, 167.11)
MacDonald, N., STEMCELL Technol., Inc.—4 (174.7, 174.38)
Madakamutil, L., Johnson & Johnson; Janssen R&D—1; 4 (175.18)
Magcase, D., MBL International—4 (57.49)
Majonis, D., Fluidigm Inc—1, 4 (120.2)
Malaviya, R., Janssen Pharmaceutical Companies of Johnson & Johnson—4 (55.46)
Maldonado, R., Selecta Biosciences—4 (55.44)
Manandhar, L., Mesoscale Discovery—4 (172.18)
Mandavilli, B., Thermo Fisher Scientific—4 (174.32)
Manfredi, M.G., Kyn Therapeutics—4, 7 (177.3, 177.5)
Mangalam, A., Mayo Clinic—2 (54.2)
Maraganore, C., Vium, Inc.—4 (174.24)
Markesich, D., Pulmotect, Inc.—4 (125.8)
Martin, J., BD Biosciences—4 (120.33)
Martin, J., BD Biosciences—4 (120.41)
Martin, J.C., BD Biosciences—4 (120.11)
Maslar, K., ITUS Corporation—4 (56.2)
Master, A.M., Nucleus Biologics—4 (174.21)
McBride, J., Genentech—1, 4 (60.16)
McCauley, L., Reata Pharmaceuticals—4 (121.14)
McDonald, P., Welichem Biotech—10 (56.27)
McFarlin, B.K., DrinkMaple Inc.; Imagilin Technology; Natreon; Physician's Exclusive; Sabinsa International; Unibar SM, Inc.; Verdure Sciences Inc.—3; 3; 3; 3; 3; 3; 3; 3; 3; 3; 3 (46.18, 42.8, 42.14)
McGovern, K., Kyn Therapeutics—4 (177.5)
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McKittrick, I., ArcherDX—4 (120.30)
McMahan, C., Aptevo Therapeutics Inc.—4 (58.21)
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McQueen, K.L., STEMCELL Technol., Inc.—4 (120.5, 174.7)
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Solache, A., Abcam plc—4 (120.18)
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Stewart, D., Mesoscale Discovery—4 (172.18)
Stickler, M., AbbVie Biotherapeutics—4 (57.3)
Stone, E., Kyn Therapeutics—6 (177.3)
Strbo, N., Heat Biologics Inc.—3 (180.19)
Strobel, M., The Jackson Laboratory—4 (40.2)
Sugahara, K., Mitsubishi Tanabe Pharma Corporation - 4 (175.9)
Sun, B., BioLegend, Inc.—4 (174.30)
Sutlu, T., Vycellix Inc—6 (169.19)
Svancara, D., Quanterix—4 (174.16)
Svatek, R.S., Rapamycin Holdings—10 (177.8)
Swain, P., Agilent Technologies—4 (108.14, 49.26)
Sziivassy, S.J., STEMCELL Technol., Inc.—4 (103.4)
Tabatabaei-Zavareh, N., STEMCELL Technol., Inc.—4 (103.4)

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- Talaga, Y., Bio-Rad Laboratories—4 (120.29)
- Tang, A., AbbVie Biotherapeutics—4 (57.3)
- Tang, A., Merck, Inc.—4 (180.27)
- Tang, Q., Caladrius; Juno Therapeutics, Inc.—3; 3 (55.10, 101.12, 176.15)
- Tang, R., Meissa Vaccines Inc—4 (180.29)
- Tchaicha, J., Kyn Therapeutics—4 (177.5)
- Thomas, T.E., STEMCELL Technol., Inc.—4 (51.13, 103.4, 120.5, 174.38, 174.7)
- Ting, P.-Y., IMMvention Therapeutix—6 (58.11)
- Toy, E., Genentech—4 (57.42)
- Tran, K.T., Millipore Sigma—4 (174.28)
- Traore, T., Takeda Pharmaceuticals—4 (122.29)
- Trevino, I., Reata Pharmaceuticals—4 (121.14)
- Trezise, D.J., Essen BioScience—4 (49.5)
- Trotter, J., BD Biosciences—4 (120.25)
- Turley, S.J., Genentech—4 (118.1)
- Tyagarajan, K., Millipore Sigma—4 (174.28)
- Tyznik, A.J., BD Biosciences—4 (120.25)
- Ulufatu, S., Genentech—1, 4 (60.16)
- Valdez, Y., STEMCELL Technol., Inc.—4 (51.13, 120.5)
- Valle, N., Genentech—1, 4 (60.16)
- VanDerMeid, K.R., Acerta Pharma; Mentrik Biotech—3; 3 (56.4)
- Veale, D.J., Janssen R&D—3 (175.18)
- Veiby, P., Takeda Pharmaceuticals—4 (122.29)
- Venkateswaran, K., Omni Array Biotechnology LLC—4 (120.31)
- Venkateswaran, N., Tetracore, Inc.—4 (126.25)
- Venkateswaran, R., Omni Array Biotechnology LLC—4 (120.31)
- Verch, T., Merck, Inc.—4 (180.27)
- Viseux, N., Selecta Biosciences—4 (55.44)
- Visnick, M., Reata Pharmaceuticals—4 (121.14)
- von Schantz, L., Alligator Bioscience AB—4 (58.21)
- Vonk, A., Quanterix—4 (174.16)
- Vora, K.A., Merck, Inc.—4 (180.27)
- Vovk, A., The Jackson Laboratory—4 (40.2)
- Vozenilek, A.E., AHA Predoctoral Fellowship—3 (166.37)
- Waksal, S.D., Kadmon Corporation—1 (55.43)
- Walsh, A., Johnson & Johnson—1 (175.18)
- Walsh, L., Inimmune Corporation—4 (125.16)
- Wang, F., Takeda Pharmaceuticals—4 (122.29)
- Wang, X., Thermo Fisher Scientific—4 (174.32)
- Wang, Y., ChemoCentryx, Inc—4 (176.19)
- Ward, K.W., Reata Pharmaceuticals—1, 4, 7 (175.22)
- Warner, N.L., BD Biosciences—1 (120.25)
- Webb, D., Boehringer Ingelheim—4 (175.4)
- Weber-Lohmann, S., Miltenyi Biotec—4 (174.9)
- Wechalekar, M., Cell Medica Ltd—3 (175.18)
- Wedel, J., Compass Therapeutics—3 (55.8)
- Weiner, D.B., Inovio Pharmaceuticals—1, 9 (180.7)
- Weiss, J.M., Kadmon Corporation—1, 4 (55.43, 167.11)
- Wickman, J., Quanterix—4 (174.15)
- Wigley, C., Reata Pharmaceuticals—4 (121.14)
- Winkels, G.F., Miltenyi Biotec—4 (174.9)
- Wognum, A.W., STEMCELL Technol., Inc.—4 (103.4)
- Wohlstadter, J.N., Mesoscale Discovery—6 (172.18)
- Wong, K., Genentech—1, 4 (60.16)
- Woodside, S.M., STEMCELL Technol., Inc.—4 (51.13, 120.5, 174.38, 174.7)
- Wring, S.A., Enzyvant Therapeutics—4 (166.21)
- Wu, C.J., Neon Therapeutics, Inc.—9 (181.11)
- Wu, C.S.-Y., Boston Biomedical, Inc; Bristol Myers Squibb; Vaccinex, Inc.—3; 3; 3 (58.7)
- Wu, G.F., EMD-Serono, Genzyme—5; 5 (100.12)
- Wu, X., Genentech—4 (103.32)
- Xiao, Q., MilliporeSigma—4 (120.27)
- Xu, M., Genentech—1, 4 (60.16)
- Yandell, M., IDbyDNA; Fabric Genomics—7; 9 (174.14)
- Yau, S., ChemoCentryx, Inc—4 (176.19)
- Ye, P., ACEA Biosciences—4 (174.42)
- Ye, Z., Genentech—4 (57.42)
- Yeh, V., EMD Millipore—4 (174.40)
- Yen, D., Amgen, Inc.—4 (57.46)
- Yerden, R., BioSpherix—6 (48.13)
- Yin, X., Johnson & Johnson—1 (175.18)
- Yin, , Janssen R&D—4 (175.18)
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- Yu, Z., Miltenyi Biotec—4 (174.9)
- Zanin-Zhorov, A., Kadmon Corporation—1, 4 (55.43, 167.11)
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- Zhang, J., Kadmon Corporation—1, 4 (55.43)
- Zhang, J., Genentech—4 (103.32)
- Zhang, M., Kyn Therapeutics—7 (177.3)
- Zhang, P., ChemoCentryx, Inc—4 (176.19)
- Zhang, Q., Mersana Therapeutics—4 (122.29)
- Zheng, Y., Amgen, Inc.—4 (57.46)
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