### Table of Contents

#### TOP READS

**1979**
- **Airway Inflammation and the Gut** See article p. 1991
- **Fishy Maternal IgZ** See article p. 2001
- **STING Agonist as an MS Treatment** See article p. 2015
- **BATF Regulates Treg Function** See article p. 2088
- **Sepsis Sentries** See article p. 2135
- **Complementing the Proprotein Convertase System** See article p. 2198

#### PILLARS OF IMMUNOLOGY

**1981**
- **A Fateful Decision in the Thymus Controlled by the Transcription Factor ThPOK**
  
  Takeshi Egawa

#### BRIEF REVIEWS

**1983**
- **Ectonucleotidases in Inflammation, Immunity, and Cancer**
  
  Clarissa Branco Haas, Marianna Lovási, Elizandra Braganhol, Pál Pacher, and György Haskó

#### ALLERGY AND OTHER HYPERSENSITIVITIES

**1991**
- **Ovalbumin-Induced Airway Inflammation Is Ameliorated in Dectin-1–Deficient Mice, in Which Pulmonary Regulatory T Cells Are Expanded through Modification of Intestinal Commensal Bacteria**
  
  Wei Han, Ce Tang, Seiya Baba, Tomofumi Hamada, Tomoyuki Shimazu, and Yoichiro Iwakura

#### ANTIGEN RECOGNITION AND RESPONSES

**2001**
- **New Insights into IgZ as a Maternal Transfer Ig Contributing to the Early Defense of Fish against Pathogen Infection**
  
  Jian-fei Ji, Chong-bin Hu, Nan Zhang, Xiao Huang, Tong Shao, Dong-dong Fan, Ai-fu Lin, Li-xin Xiang, and Jian-zhong Shao

---

AUTOIMMUNITY

2015 STING Agonist Mitigates Experimental Autoimmune Encephalomyelitis by Stimulating Type I IFN–Dependent and –Independent Immune-Regulatory Pathways
Brandon M. Johnson, Toru Uchimura, Matthew D. Gallovic, Madhan Thamilarasan, Wei-Chun Chou, Sara A. Gibson, Meng Deng, Jason W. Tam, Cole J. Batry, Jonathan Williams, Glenn K. Matsushima, Eric M. Bachereder, Kristy M. Ainlie, Silva Markovic-Plese, and Jenny P.-Y. Ting

2029 Conditional Deletions of Hdc Confirm Roles of Histamine in Anaphylaxis and Circadian Activity but Not in Autoimmune Encephalomyelitis
Françoise Morin, Noopur Singh, Julius Baya Mdzomba, Aline Dumas, Vincent Pernet, and Luc Vallières

2038 HLA Class I Polymorphisms Influencing Both Peptide Binding and KIR Interactions Are Associated with Remission among Children with Atopic Dermatitis: A Longitudinal Study
David J. Margolis, Nandita Mitra, Brian S. Kim, Jamie L. Duke, Ron A. Berna, Ole J. Hoffstad, Jenna R. Wasserman, Deborah A. Ferriola, Tim L. Moirbruger, Bradley S. Wubbenhorst, Kathrine L. Nathanian, and Dimitri S. Monas

2045 Autoreactivity of Peripheral Helper T Cells in the Joints of Rheumatoid Arthritis
Takahide Sakuragi, Hisakata Yamada, Akihisa Haraguchi, Kazuhiro Kai, Jun-ichi Fukushi, Satoshi Ikemura, Yukio Akatsuki, Toshihumi Fujiwara, Hitotoki Tsukuba, Tomoko Tsutsumi, Makazawa Kondo, Yasunobu Yoikai, Seiji Okada, and Yasuharu Nakashima

IMMUNE REGULATION

2052 Long Noncoding RNA RUNXOR Promotes Myeloid-Derived Suppressor Cell Expansion and Functions via Enhancing Immunosuppressive Molecule Expressions during Latent HIV Infection
Jinyu Zhang, Bal Krishna Chand Thakuri, Juan Zhao, Lam N. Nguyen, Lam N. T. Nguyen, Sushant Khanal, Dechoa Cao, Xindi Dang, Madison Schunk, Zeyuan Lu, Xiao Y. Wu, Zheng D. Morrison, Mohamed El Gazzar, Yong Jiang, Shunbin Ning, Ling Wang, Jonathan P. Moorman, and Zhi Q. Yao

2061 Regulation of Anion Channel LRRC8 Volume-Regulated Anion Channels in Transport of 2′3′-Cyclic GMP–AMP and Cisplatin under Steady State and Inflammation
Xia Chen, Li Wang, Limin Cao, Tianxian Li, Zhibang Li, Yumeng Sun, Jinjiu Ding, Chun Zhou, Yadong Xie, Nan Yue, Jing Nan, Xin-Ming Jia, Chao Peng, Huabin Li, Jinbo Yang, and Hui Xiao

2075 Metabolomic Profiles in the Intestine of Shrimp Infected by White Spot Syndrome Virus and Antiviral Function of the Metabolite Linoleic Acid in Shrimp
Cang Li, Ming-Chong Yang, Pan-Pan Hong, Xiao-Fan Zhao, and Jin-Xing Wang

2088 BATF Regulates T Regulatory Cell Functional Specification and Fitness of Triglyceride Metabolism in Restraining Allergic Responses
Chengxian Xu, Yongqiao Fu, Sheng Liu, Jack Trittipo, Xiaoyu Lu, Rong Qi, Hong Du, Cong Yan, Chi Zhang, Jun Wan, Mark H. Kaplan, and Kai Yang

2101 Amelioration of Graft-versus-Host Disease by Exopolysaccharide from a Commensal Bacterium
Olga Kalinina, Sarah Talley, Jesus Zamora-Pineda, Wonboom Paik, Edward M. Campbell, and Katherine L. Knight

IMMUNE SYSTEM DEVELOPMENT

2109 Phenotypic and Clonal Stability of Antigen-Inexperienced Memory-like T Cells across the Genetic Background, Hygienic Status, and Aging
Alena Moudra, Veronika Niederlova, Jiri Novotny, Lucie Schmiedova, Jan Kubovciak, Tereza Matejkova, Ales Drohek, Michaleta Pribylova, Romana Stopkova, Dagmar Cizkova, Ales Neuwirth, Juraj Michalik, Katerina Křižová, Tomas Hudovic, Michal Kolar, Hana Kazakova, Jakub Kreisinger, Pavel Stopka, and Ondrej Stepanek
IMMUNOTHERAPY AND VACCINES

2122 Prefusion F–Based Polyanhydride Nanovaccine Induces Both Humoral and Cell-Mediated Immunity Resulting in Long-Lasting Protection against Respiratory Syncytial Virus
Laura M. Stephens, Kathleen A. Ros, Kody A. Waldstein, Kevin L. Legge, Jason S. McLellan, Balaji Narasimhan, and Steven M. Varga

INFECTION DISEASE AND HOST RESPONSE

2135 Novel Mouse Model Reveals That Serine Phosphorylation of L-Plastin Is Essential for Effective Splenic Clearance of Pneumococcus
Edgar P. Anaya, Xue Lin, Elizabeth M. Todd, Taylor P. Szasz, and S. Celeste Morley

2146 Longitudinal Peripheral Blood Transcriptional Analysis Reveals Molecular Signatures of Disease Progression in COVID-19 Patients
Qibong Yan, Pingzhao Li, Xiaomiao Ye, Xiaohan Huang, Bo Feng, Tianxing Ji, Zhihong Chen, Feng Li, Yudi Zhang, Kun Luo, Fengjuan Chen, Xiaoneng Mo, Jianhua Wang, Liqiang Feng, Fengyu Hu, Chunliang Lei, Linbing Qu, and Ling Chen

2160 IL-27/IL-27R Mediates Protective Immunity against Chlamydial Infection by Suppressing Excessive Th17 Responses and Reducing Neutrophil Inflammation
Xiaoyu Zha, Shuaini Yang, Wenhao Niu, Lu Tan, Yueyue Xu, Jiajia Zeng, Yingying Tang, Lida Sun, Gaoju Pang, Sai Qiao, Hong Zhang, Tengli Liu, Huili Zhao, Ningbo Zheng, Yongzi Zhang, and Hong Bai

2170 Kdm6b Regulates the Generation of Effector CD8⁺ T Cells by Inducing Chromatin Accessibility in Effector-Associated Genes
Tianhao Xu, Alexander Schutte, Leandro Jimenez, Andre N. A. Gonçalves, Ashleigh Keller, Matthew E. Pipkin, Helder I. Nakaya, Renata M. Pereira, and Gustavo J. Martinez

INNATE IMMUNITY AND INFLAMMATION

2184 IFIT5 Negatively Regulates the Type I IFN Pathway by Disrupting TBK1–IKKe–IRF3 Signalosome and Degrading IRF3 and IKKe
Na Zhang, Han Shi, Miaomiao Yan, and Guangliang Liu

2198 Proprotein Convertase Is the Highest-Level Activator of the Alternative Complement Pathway in the Blood
Gábor Orozlán, Réhel Dani, Barbara M. Végh, Dóra Varga, Andrea V. Ács, Gábor Pál, Péter Závodszky, Henriette Farkas, Péter Gál, and József Dobó

2206 Interplay between NOD1 and TLR4 Receptors in Macrophages: Nonsynergistic Activation of Signaling Pathways Results in Synergistic Induction of Proinflammatory Gene Expression
Anna S. Budikhina, Nina E. Murugina, Polina V. Maximchik, Yulia A. Dogil, Anna M. Nikolaeva, Lyudmila S. Balyasova, Vladimir V. Murugin, Elizaveta M. Seleznova, Yulia G. Pashchenkova, Georgy Z. Chkadua, Boris V. Piregin, and Mikhail V. Pashenkov

MOLECULAR AND STRUCTURAL IMMUNOLOGY

2221 The Murine MHC Class II Super Enhancer IA/IE-SE Contains a Functionally Redundant CTCF-Binding Component and a Novel Element Critical for Maximal Expression
Parimal Majumder, Joshua T. Lee, Benjamin G. Barwick, Dillon G. Patterson, Alexander P. R. Bally, Christopher D. Scharer, and Jeremy M. Boss

MUCOSAL IMMUNOLOGY

2233 Monocyte-Derived Dendritic Cells (moDCs) Differentiate into Bcl6⁺ Mature moDCs to Promote Cyclic di-GMP Vaccine Adjuvant–Induced Memory T_H Cells in the Lung
Samira Mansouri, Divya S. Katikaneni, Himanshu Gogoi, and Lei Jin

AUTHOR INDEX