IN THIS ISSUE

PILLARS OF IMMUNOLOGY

3 A New Mechanism of Gene Regulation Mediated by Noncoding RNA
Martin Turner and Peter D. Katsikis

Gray Shaw and Robert Kamen

BRIEF REVIEWS

15 Autophagy: An Emerging Immunological Paradigm
Vojo Deretic

CUTTING EDGE

23 Cutting Edge: MicroRNA Regulation of Macrophage Fusion into Multinucleated Giant Cells
James R. Sissons, Jacques J. Peschon, Frank Schmitz, Rosa Suen, Mark Gilchrest, and Alan Aderem

28 Cutting Edge: IL-2 Signals Determine the Degree of TCR Signaling Necessary To Support Regulatory T Cell Proliferation In Vivo

33 Cutting Edge: TNF Receptor-Associated Factor 4 Restricts IL-17–Mediated Pathology and Signaling Processes
Jarod A. Zepp, Caini Liu, Wen Qian, Ling Wu, Muhammet F. Gulen, Zizhen Kang, and Xiaoxia Li

39 B and T Lymphocyte Attenuator Mediates Inhibition of Tumor-Reactive CD8+ T Cells in Patients After Allogeneic Stem Cell Transplantation

50 Transcriptional Regulation of Murine IL-33 by TLR and Non-TLR Agonists

51 Differential Requirement of RasGRP1 for γδ T Cell Development and Activation
Yong Chen, Xinxin Ci, Balachandra Gorentla, Sarah A. Sullivan, James C. Stone, Weiguo Zhang, Pablo Pereira, Jianxin Lu, and Xiaofeng Zhong

72 Induction of Prolonged Asthma Tolerance by IL-10–Differentiated Dendritic Cells: Differential Impact on Airways Hyperresponsiveness and the Th2 Immunoinflammatory Response
Aarti Nayyar, Wojciech Dawicki, Hui Huang, Meiping Lu, Xiaobei Zhang, and John R. Gordon

80 Myeloid Dendritic Cells from B6.NZM Sle1/Sle2/Sle3 Lupus-Prone Mice Express an IFN Signature That Precedes Disease Onset
Uma Sriram, Linda Varghese, Heather L. Bennett, Neelakshi R. Jog, Debra K. Shivers, Yue Ning, Edward M. Behrens, Roberto Caricchio, and Stefania Gallucci

92 Fcγ Receptor IIb Strongly Regulates Fcγ Receptor-Facilitated T Cell Activation by Dendritic Cells
Nadine van Montfoort, Peter A. C. ’t Hoen, Sara M. Mangbo, Marcel G. M. Camps, Peter Boross, Cornelis J. M. Melief, Ferry Ossendorp, and J. Sjef Verbeek

102 The Role of Sphingosine-1-Phosphate Transporter Spns2 in Immune System Function
Anastasia Nijnik, Simon Clare, Christine Hale, Jing Chen, Claire Raisen, Lynda Mastrom, Mark Lucas, Joanne Estabel, Edward Ryder, Hibert Adissu, Sanger Mouse Genetics Project, Niels C. Adams, Ramiro Ramirez-Solis, Jacqueline K. White, Karen P. Steel, Gordon Dougan, and Robert E. W. Hancock

112 Glucocorticoids Relieve Collectin-Driven Suppression of Apoptotic Cell Uptake in Murine Alveolar Macrophages through Downregulation of SIRPα
Alexandra L. McCubrey, Joanne Sonstein, Theresa M. Ames, Christine M. Freeman, and Jeffrey L. Curtis

120 The Aryl Hydrocarbon Receptor Modulates Acute and Late Mast Cell Responses
Riccardo Sibilano, Barbara Frossi, Marco Calvaruso, Luca Danelli, Elena Betto, Alessandra Dall’Agne, Claudio Tripodo, Mario P. Colombo, Carlo E. Pucillo, and Giorgia Gri

128 Pulmonary CCL18 Recruits Human Regulatory T Cells
Cécile Chenivesse, Ying Chang, Imane Azzouzi, Saliba Ait Yahia, Olivier Morales, Coline Plé, Arnaud Fousat, André-Bernard Tonnel, Nadira Delhem, Hans Yisel, Han Vorn, Benoit Wallaert, and Anne Tsiropoulos

138 Dendritic Cell-Specific Transcript: Dendritic Cell Marker and Regulator of TLR-Induced Cytokine Production
Saarjie Hontelez, Marleen Ansems, Nina Karthaus, Malou Zuidscherwoude, Maaike W. Looman, Vassilis Triantis, and Gosse J. Adema

146 α1-Antitrypsin Promotes Semimature, IL-10–Producing and Readily Migrating Tolerogenic Dendritic Cells
Eyal Ozeri, Mark Mizrahi, Galit Shabat, and Eli C. Lewis

154 GITR Ligand Provided by Thrombopoietic Cells Inhibits NK Cell Antitumor Activity
Theresa Placke, Helmut R. Sáíth, and Hans-Georg Kopp

161 IL-2 Requirement for Human Plasma Cell Generation: Coupling Differentiation and Proliferation by Enhancing MAPK–ERK Signaling
Simon Le Gallou, Gersende Caron, Cécile Delaloy, Delphine Rosille, Karin Tarte, and Thierry Fest

174 Purinergic P2X7 Receptor Drives T Cell Lineage Choice and Shapes Peripheral γδ Cells
Michela Frascoli, Jessica Marcandalli, Ursula Schenk, and Fabio Grassi
B7-H1, Which Represses EBV-Immortalized B Cell Killing by Autologous T and NK Cells, Is Oppositely Regulated by c-Myc and EBV Latency III Program at Both mRNA and Secretory Lysosome Levels
Stephanie Durand-Pantex, Mona Farhat, Ibtissam Youlyouz-Marfak, Pauline Rouaud, Catherine Ouk-Martin, Amandine David, Nathalie Faumont, Jean Feuillard, and Chantal Jayat-Vignoles

Constitutive Plasmacytoid Dendritic Cell Migration to the Splenic White Pulp Is Cooperatively Regulated by CCR7- and CXCR4-Mediated Signaling
Eiji Umemoto, Kazuhiro Otani, Takashi Ikeno, Noel Verajan Garcia, Haruko Hayasaka, Zhongbin Bai, Myoung Ho Jang, Toshyuki Tanaka, Takashi Nagasawa, Koichi Ueda, and Masayuki Miyasaka

The Endothelial Antigen ESAM Monitors Hematopoietic Stem Cell Status between Quiescence and Self-Renewal
Takao Sudo, Takafumi Yokota, Kenji Oritani, Ysuske Sato, Tatsuki Sugiyama, Tatsuo Ishida, Hirobiko Shibayama, Sachiko Esoe, Natsuko Fujita, Hirokazu Tanaka, Tetsuo Maeda, Takashi Nagasawa, and Yuzuru Kanakura

Identification of Resting and Type I IFN-Activated Human NK Cell miRNomes Reveals MicroRNA-378 and MicroRNA-30e as Negative Regulators of NK Cell Cytotoxicity
Pin Wang, Yan Gu, Qian Zhang, Yanmei Han, Jin Hou, Li Lin, Cong Wu, Yan Bao, Xiaoping Su, Minghong Jiang, Qingqing Wang, Nan Li, and Xuetao Cao

Donor B Cells in Transplants Augment Clonal Expansion and Survival of Pathogenic CD4+ T Cells That Mediate Autoimmune-like Chronic Graft-versus-Host Disease
James S. Young, Tao Wu, Yukong Chen, Dongchang Zhao, Hongjun Liu, Tangsheng Yi, Heather Johnston, Jeremy Racine, Xiaofan Li, Audrey Wang, Ivan Todorov, and Defu Zeng

Comprehensive Analysis of CD4+ T Cells in the Decision between Tolerance and Immunity In Vivo Reveals a Pivotal Role for ICOS
Timo Lischke, Anika Hegemann, Stephanie Garka, Dana Vu Van, Yvonne Burmeister, Kong-Peng Lam, Olivia Kershaw, Hans-Joachim Mollenkopf, Hans Werner Mages, Andreas Hutloff, and Richard A. Kroczek

Crystal Structure of Human RANKL Complexed with Its Decoy Receptor Osteoprotegerin
Xudong Luan, Qingyu Lu, Yinan Jiang, Senyan Zhang, Qing Wang, Huihui Yuan, Wenming Zhao, Jiawei Wang, and Xinquan Wang

BLIMP-1 and STAT3 Counterregulate MicroRNA-21 during Plasma Cell Differentiation
Nicholas A. Barnes, Sophie Stephenson, Mario Coco, Reuben M. Tooze, and Gina M. Doody

Classical Ataxia Telangiectasia Patients Have a Congenitally Aged Immune System with High Expression of CD95
Ellen F. Carney, Venkataramanan Srinivasan, Paul A. Moss, and A. Malcolm Taylor

Vasoactive Intestinal Peptide Downregulates Proinflammatory TLRs While Upregulating Anti-Inflammatory TLRs in the Infected Cornea
Xiaoyu Jiang, Sharon A. McClellan, Ronald P. Barrett, Yunfan Zhang, and Linda D. Hazlett

Hepatitis B Virus-Induced Calreticulin Protein Is Involved in IFN Resistance
Xin Yue, Hui Wang, Fanpeng Zhao, Shi Liu, Jianguo Wu, Wendan Ren, and Ying Zhu

IL-33 Priming Regulates Multiple Steps of the Neutrophil-Mediated Anti-Candida albicans Response by Modulating TLR and Dectin-1 Signals
Hongnju T. Le, Vuvi G. Tran, Wonyoung Kim, Juyang Kim, Hong R. Cho, and Byungsuk Kwon

Role of M2b Macrophages in the Acceleration of Bacterial Translocation and Subsequent Sepsis in Mice Exposed to Whole Body $^{137}$Cs Gamma-Irradiation
Makiko Kobayashi, Kiwamu Nakamura, Michael Cornforth, and Fujio Suzuki
Cathelicidin-Related Antimicrobial Peptide Is Required for Effective Lung Mucosal Immunity in Gram-Negative Bacterial Pneumonia
Melissa A. Kovach, Megan N. Ballinger, Michael W. Newstead, Xianying Zeng, Urvashi Bhan, Fu-shin Yu, Bethany B. Moore, Richard L. Gallo, and Theodore J. Standiford

Relative Contributions of Dectin-1 and Complement to Immune Responses to Particulate β-Glucans
Haibin Huang, Gary R. Ostroff, Chrono K. Lee, Sarika Agarwal, Sanjay Ram, Peter A. Rice, Charles A. Specht, and Stuart M. Levitz

INFLAMMATION

Gadolinium Compounds Signaling through TLR 4 and TLR 7 in Normal Human Macrophages: Establishment of a Proinflammatory Phenotype and Implications for the Pathogenesis of Nephrogenic Systemic Fibrosis
Peter J. Wermuth and Sergio A. Jimenez

Bacterial RNA Mediates Activation of Caspase-1 and IL-1β Release Independently of TLRs 3, 7, 9 and TRIF but Is Dependent on UNC93B
Tatjana Eigenbrod, Luigi Franchi, Raul Muñoz-Planillo, Carsten J. Kirschning, Marina A. Freudenberg, Gabriel Núñez, and Alexander Dalpke

Differing Requirements for CCR4, E-Selectin, and α4β1 for the Migration of Memory CD4 and Activated T Cells to Dermal Inflammation
Ahmed Gehad, Nadia A. Al-Banna, Maria Vaci, Andrew C. Isekutz, Karkada Mohan, Markus Latta, and Thomas B. Isekutz

B7-H3 Participates in the Development of Experimental Pneumococcal Meningitis by Augmentation of the Inflammatory Response via a TLR2-Dependent Mechanism
Xuqin Chen, Edel M. Quinn, Hong Ni, Jian Wang, Siobhan Blakson, H. Paul Redmond, Jiang Huai Wang, and Xing Feng

Proinflammatory Mediators Disrupt Glucose Homeostasis in Airway Surface Liquid

Neutrophil Cerebrovascular Transmigration Triggers Rapid Neurotoxicity through Release of Proteases Associated with Decondensed DNA
Charlotte Allen, Peter Thornton, Adam Denes, Barry W. McColl, Adam Pierozynski, Marc Monestier, Emmanuel Pinteaux, Nancy J. Rothwell, and Stuart M. Allan

Milk Fat Globule-Epidermal Growth Factor-Factor 8 Attenuates Neutrophil Infiltration in Acute Lung Injury via Modulation of CXCR2
Monowar Aziz, Akihisa Matsuda, Weng-Lang Yang, Asha Jacob, and Ping Wang

Full-Length IL-33 Promotes Inflammation but not Th2 Response In Vivo in an ST2-Independent Fashion

Retinoid X Receptor Agonists Impair Arterial Mononuclear Cell Recruitment through Peroxisome Proliferator-Activated Receptor-γ Activation
Maria-Jesus Sanz, Fernando Alberto, Eduardo Otero, Marina Juez, Esteban J. Morcillo, and Laura Piqueras