IN THIS ISSUE
1387  c-MYC Manipulates Ag Presentation See article p. 1434
Accidentally Augmenting Atherosclerosis See article p. 1467
Placental Protection of the Fetus See article p. 1534
Driving cGAS with IFN See article p. 1545
Tim-1 Breg-ulates Inflammation See article p. 1602
TAM Receptors Get the NOD(2) See article p. 1928
TLR2 Tamps Down Chemotoxicity See article p. 1983

BRIEF REVIEWS
1389   Fibroblastic Reticular Cells: Organization and Regulation of the T Lymphocyte Life Cycle
Flavian D. Brown and Shannon J. Turley

1395  B10 Cells: A Functionally Defined Regulatory B Cell Subset
Thomas F. Tedder

CUTTING EDGE
1403  Cutting Edge: DNase II Deficiency Prevents Activation of Autoreactive B Cells by Double-Stranded DNA Endogenous Ligands
Sudesh Pawaria, Krishna Moody, Patricia Busto, Kerstin Nündel, Chee-Ho Choi, Tariq Ghayur,
and Ann Marshak-Rothstein

1408  Cutting Edge: Stage-Specific Requirement of IL-18 for Antiviral NK Cell Expansion
Sharline Madera and Joseph C. Sun

1413  Cutting Edge: The BTLA–HVEM Regulatory Pathway Interferes with Protective Immunity to Intestinal Helminth Infection
Minka Breloer, Wiebke Hartmann, Birte Blankenhaus, Marie-Luise Eichbach, Klaus Pfeffer, and Thomas Jacobs


The Journal of Immunology (ISSN 0022-1767) is published twice each month by The American Association of Immunologists, Inc., 9650 Rockville Pike, Bethesda, MD 20814-3994, Phone: 301-634-7197, Fax: 301-634-7829. Subscription terms: New subscriptions and renewals begin January 1 and expire one year later (see http://www.jimmunol.org/subscriptions for prices and details). A special rate is available to members of The American Association of Immunologists, Inc. (see http://www.aai.org/membership). The American Association of Immunologists, Inc., is not responsible for undeliverable issues. Replacement issues can be obtained, if available, at the regular price of single issues (see http://www.jimmunol.org/pdf/single_issue_purchase.pdf). Reprints of individual articles are available only from authors. Periodicals postage paid at Bethesda, MD 20814-3994, and at additional mailing offices. Country of origin U.S.A. Printed on acid-free recyclable paper. Postmaster: Send address changes 60 days in advance to The Journal of Immunology, Subscription Department, 9650 Rockville Pike, Bethesda, MD 20814-3994. Copyright © 2015 by The American Association of Immunologists, Inc.
Cutting Edge: Identification of Neutrophil PGLYRP1 as a Ligand for TREM-1
Christine B. Read, Joseph L. Kuijper, Siv A. Hjorth, Mark D. Heipel, Xiaoting Tang, Andrew J. Fleetwood, Jeffrey L. Dantzler, Susanne N. Grell, Jesper Kastrup, Camilla Wang, Cameron S. Brundt, Anker J. Hansen, Nicolai R. Wagtmann, Wenfeng Xu, and Vibeke W. Stennicke

ALLERGY AND OTHER HYPERSENSITIVITIES

Neurturin Influences Inflammatory Responses and Airway Remodeling in Different Mouse Asthma Models
Marion Mauffray, Olivia Domingues, Francois Henges, Jacques Zimmer, Daniel Hanau, and Tatiana Michel

ANTIGEN RECOGNITION AND RESPONSES

Elevation of c-MYC Disrupts HLA Class II–Mediated Immune Recognition of Human B Cell Tumors
Jason M. God, Christine Cameron, Janette Figueras, Shereen Amnash, Bettina Kempkes, Georg W. Bornkamm, Robert K. Stuart, Janice S. Blum, and Azizul Haque

Macronutrient Deprivation Modulates Antigen Trafficking and Immune Recognition through HSC70 Accessibility
Sarah N. Deffit and Janice S. Blum

AUTOIMMUNITY

Selective Blockade of CD28-Mediated T Cell Costimulation Protects Rhesus Monkeys against Acute Fatal Experimental Autoimmune Encephalomyelitis

IRF5 Deficiency Ameliorates Lupus but Promotes Atherosclerosis and Metabolic Dysfunction in a Mouse Model of Lupus-Associated Atherosclerosis

JNK Regulatory Molecule G5PR Induces IgG Autoantibody–Producing Plasmablasts from Peritoneal B1a Cells
Masahiro Kitabatake, Miho Soma, Tianli Zhang, Kazuhiro Kuwahara, Yoshimi Fukushima, Takuya Nojima, Daisuke Kitamura, and Nobuo Sakaguchi

Natural IgM Prevents Autoimmunity by Enforcing B Cell Central Tolerance Induction
Trang T. T. Nguyen, Rebecca A. Elsner, and Nicole Baumgarth

Expansion of an Atypical NK Cell Subset in Mouse Models of Systemic Lupus Erythematosus
Elisaveta N. Voynov, Jeffrey Skinner, and Silvia Bolland

CLINICAL AND HUMAN IMMUNOLOGY

Defective Selection of Thymic Regulatory T Cells Accompanies Autoimmunity and Pulmonary Infiltrates in Tcrα-Deficient Mice Double Transgenic for Human La/Sjögren’s Syndrome-B and Human La-Specific TCR
Jane C. Yaciuk, Yujun Pan, Karen Schwarz, Zi-jian Pan, Jacen S. Maier-Moore, Stanley D. Kosanke, Christina Lawrence, and A. Darise Farris

IMMUNE REGULATION

Duox1-Derived H2O2 Modulates Cxcl8 Expression and Neutrophil Recruitment via JNK/c-JUN/AP-1 Signaling and Chromatin Modifications
Sofia de Oliveira, Pierre Boudinot, Angelo Calado, and Victoriano Mulero

The Human Fetal Placenta Promotes Tolerance against the Semiallogeneic Fetus by Inducing Regulatory T Cells and Homeostatic M2 Macrophages
Judit Svensson-Arvelund, Ratnasri B. Mehta, Robert Lindau, Elodie Mirraessehian, Heriberto Rodriguez-Martinez, Göran Berg, Gendie E. Lash, Maria C. Jenmalm, and Jan Ernerudh
Positive Feedback Regulation of Type I IFN Production by the IFN-Inducible DNA Sensor cGAS
Feng Ma, Bing Li, Su-yang Liu, Shankar S. Iyer, Yongxin Yu, Aiping Wu, and Genhong Cheng

A Novel Regulatory Macrophage Induced by a Helminth Molecule Instructs IL-10 in CD4+ T Cells and Protects against Mucosal Inflammation

Defining CD4 T Cell Memory by the Epigenetic Landscape of CpG DNA Methylation
H. Kiyomi Komori, Traver Hart, Sarah A. LaMere, Pamela V. Chew, and Daniel R. Salomon

In Vivo 4-1BB Deficiency in Myeloid Cells Enhances Peripheral T Cell Proliferation by Increasing IL-15
Beom K. Choi, Young H. Kim, Don G. Lee, Ho S. Oh, Kwang H. Kim, Sang H. Park, Jinsun Lee, Dass S. Vinay, and Byoung S. Kwon

The D0 Ig-like Domain Plays a Central Role in the Stronger Binding of KIR3DL2 to B27 Free H Chain Dimers
Hiroko Hatano, Jacqueline Shaw, Kaitlin Marquardt, Zhiyong Zhang, Laurent Gauthier, Stephanie Chanteux, Benjamin Rossi, Demin Li, Julie Mitchell, and Simon Kolinberger

Tim-1 Is Essential for Induction and Maintenance of IL-10 in Regulatory B Cells and Their Regulation of Tissue Inflammation
Sheng Xiao, Craig R. Brooks, Raymond A. Sobel, and Vijay K. Kuchroo

Alterations in Antigen-Specific Naive CD4 T Cell Precursors after Sepsis Impairs Their Responsiveness to Pathogen Challenge
Javier Cabrera-Perez, Stephanie A. Condotta, Britnie R. James, Sakeen W. Kashem, Erik L. Brincks, Deepa Rai, Tamara A. Kucaba, Vladimir P. Badovinac, and Thomas S. Griffith

Engulfment of Activated Apoptotic Cells Abolishes TGF-β-Mediated Immunoregulation via the Induction of IL-6
Clare A. Notley, Mark A. Brown, Jenny L. McGovern, Christine K. Jordan, and Michael R. Ehrenstein

CX3CR1 Reduces Kidney Fibrosis by Inhibiting Local Proliferation of Profibrotic Macrophages
Daniel R. Engel, Torsten A. Krause, Sarah L. Snelgrove, Stephanie Thiebes, Michael J. Hickey, Peter Boor, A. Richard Kitching, and Christian Kurts

E3 Ubiquitin Ligase Cbl-b Regulates Thymic-Derived CD4+CD25+ Regulatory T Cell Development by Targeting Foxp3 for Ubiquitination
Yixia Zhao, Hui Guo, Guilian Qiao, Mark Zucker, Wallace Y. Langdon, and Jian Zhang

5-Lipoxygenase Is a Direct Target of miR-19a-3p and miR-125b-5p
Saskia Busch, Eileen Auth, Friederike Scholl, Sabine Huenecke, Ulrike Koehl, Beatrix Suess, and Dieter Stein Hilber

PP6 Controls T Cell Development and Homeostasis by Negatively Regulating Distal TCR Signaling
Jian Ye, Hao Shi, Ye Shen, Chao Peng, Yan Liu, Chenyu Li, Kejing Deng, Jianguo Geng, Tian Xu, Yuan Zhuang, Biao Zheng, and Wufan Tao

ShcA Regulates Late Stages of T Cell Development and Peripheral CD4+ T Cell Numbers
Monica W. Buckley, Paul C. Trampont, Sanja Arandjelovic, Aaron M. Fond, Ignacio J. Juncadella, and Kodi S. Ravichandran

Heme Exporter FLVCR Is Required for T Cell Development and Peripheral Survival
Mary Philip, Scott A. Funkhouser, Edison Y. Chiu, Susan R. Phelps, Jeffrey J. Detrow, James Cox, Pamela J. Fink, and Janis L. Abkowitz

IMMUNOTHERAPY AND VACCINES

Alternatively Spliced Myeloid Differentiation Protein-2 Inhibits TLR4-Mediated Lung Inflammation
Ganetseng Tumurkhuu, Jargalsaikhan Dagvadorj, Heather D. Jones, Shuang Chen, Kenichi Shimada, Timothy R. Crother, and Made Arditii
Bortezomib Reduces Pre-Existing Antibodies to Recombinant Immunotoxins in Mice
Michael L. Manning, Emily Mason-Osann, Masanori Onda, and Ira Pastan

A Nonhuman Primate Scrub Typhus Model: Protective Immune Responses Induced by pKarp47 DNA Vaccination in Cynomolgus Macaques

Vaccine Adjuvant MF59 Promotes Retention of Unprocessed Antigen in Lymph Node Macrophage Compartments and Follicular Dendritic Cells
Rocco Cantisani, Alfredo Pezzicoli, Rosella Cioncada, Carmine Malzone, Ennio De Gregorio, Ugo D’Oro, and Diego Piccioli

Memory T Cells Specific for Murine Cytomegalovirus Re-Emerge after Multiple Challenges and Recapitulate Immunity in Various Adoptive Transfer Scenarios
Michael Quinn, Holly Turula, Mayank Tandon, Berthony Desloches, Toktam Moghbeli, and Christopher M. Snyder

The Inducible Costimulator Augments Tc17 Cell Responses to Self and Tumor Tissue

INFECTIOUS DISEASE AND HOST RESPONSE

Cytotoxic Mediators in Paradoxical HIV–Tuberculosis Immune Reconstitution Inflammatory Syndrome

Protective Efficacy of Individual CD8+ T Cell Specificities in Chronic Viral Infection

Neutrophil IL-1β Processing Induced by Pneumolysin Is Mediated by the NLRP3/ASC Inflammasome and Caspase-1 Activation and Is Dependent on K+ Efflux

High-Mobility Group Box 1: A Novel Target for Treatment of Pseudomonas aeruginosa Keratitis
Sharon McClellan, Xiaoyu Jiang, Ronald Barrett, and Linda D. Hazlett

β-Defensin 1 Plays a Role in Acute Mucosal Defense against Candida albicans
Jeffrey Tomalka, Elahb Azozi, Hema P. Narra, Krupen Patel, Samantha O’Neill, Cisley Cardwell, Brian A. Hall, James M. Wilson, and Amy G. Hise

The Unappreciated Intracellular Lifestyle of Blastomyces dermatitidis
Alana K. Sterkel, Robert Mettelman, Marcel Wüthrich, and Bruce S. Klein

Deficiency of Antigen-Specific B Cells Results in Decreased Trypanosoma cruzi Systemic but Not Mucosal Immunity Due to CD8 T Cell Exhaustion
Nicole L. Sullivan, Christopher S. Eickhoff, John Sagartz, and Daniel F. Hoft

Evasion of Innate Cytosolic DNA Sensing by a Gammaherpesvirus Facilitates Establishment of Latent Infection
Chenglong Sun, Stefan A. Schattgen, Prapaporn Pisitkun, Joan P. Jorgensen, Adam T. Hilterbrand, Lucas J. Wang, John A. West, Kathrine Hansen, Kristy A. Horan, Martin R. Jakobsen, Peter O’Hare, Heiko Adler, Ren Sun, Hidde L. Ploegh, Blossom Damania, Jason W. Upton, Katherine A. Fitzgerald, and Søren R. Paludan
INNATE IMMUNITY AND INFLAMMATION

1832 PTEN Is a Negative Regulator of NK Cell Cytolytic Function

1841 Monitoring and Cell-Specific Deletion of C5aR1 Using a Novel Floxed GFP-C5aR1 Reporter Knock-in Mouse
Christian M. Karsten, Yves Laumonnier, Benjamin Euriich, Fanny Ender, Katharina Bröter, Sreeja Roy, Anna Czabanska, Tillman Vollbrandt, Julia Figge, and Jörg Köhl

1856 Antibody-Opsonized Bacteria Evoke an Inflammatory Dendritic Cell Phenotype and Polyfunctional Th Cells by Cross-Talk between TLRs and FcRs
Jantine E. Bakema, Cornelis W. Tuk, Sandra J. van Vliet, Sven C. Bruijns, Joost B. Vos, Sophia Lestou, Christien D. Dijkstra, Yvette van Kooyk, Arjan B. Brenkman, and Marjolein van Egmond

1867 β-arrestin1 Is Critical for the Full Activation of NLRP3 and NLRC4 Inflammasomes
Kairui Mao, Shuzhen Chen, Yan Wang, Yan Zeng, Yonglei Ma, Yu Hu, Hong Zhang, Shubai Sun, Xiaodong Wu, Guangxun Meng, Gang Pei, and Bing Sun

1874 Loss of Mouse P2Y4 Nucleotide Receptor Protects against Myocardial Infarction through Endothelin-1 Downregulation
Michael Horckmans, Hrag Esfahani, Christophe Beauloye, Sophie Clouet, Larissa di Pietrantonio, Bernard Robaye, Jean-Luc Balligand, Jean-Marie Boeynaems, Chantal Desy, and Didier Communi

1882 Porcine β-Defensin 2 Attenuates Inflammation and Mucosal Lesions in Dextran Sodium Sulfate–Induced Colitis
Feifei Han, Haiwen Zhang, Xi Xia, Haitao Xiong, Deguang Song, Xin Zong, and Yizhen Wang

1894 IRAK-M Promotes Alternative Macrophage Activation and Fibroproliferation in Bleomycin-Induced Lung Injury
Megan N. Ballinger, Michael W. Newstead, Xiaying Zeng, Urvashi Bhan, Xiaokui M. Mo, Steven L. Kunkel, Bethany B. Moore, Richard Flavell, John W. Christman, and Theodore J. Standiford

1905 Recombinant Thrombomodulin Inhibits Lipopolysaccharide-Induced Inflammatory Response by Blocking the Functions of CD14
Chih-Yuan Ma, Wei-Eu Chang, Guey-Yueh Shi, Bi-Ying Chang, Sheng-En Cheng, Yun-Tai Shih, and Hua-Lin Wu

1916 miR-24, miR-30b, and miR-142-3p Regulate Phagocytosis in Myeloid Inflammatory Cells
Afar Raza Naqvi, Jezrom B. Fordham, and Salvador Nares

1928 TAM Receptor–Dependent Regulation of SOCS3 and MAPKs Contributes to Proinflammatory Cytokine Downregulation following Chronic NOD2 Stimulation of Human Macrophages
Shasha Zheng, Matija Hedl, and Clara Abraham

1938 A RIPK3–Caspase 8 Complex Mediates Atypical Pro–IL-1ß Processing
Kenta Moriwaki, John Bertin, Peter J. Gough, and Francis Ka-Ming Chan

1945 Acquisition of Activation Receptor Ligand by Trogocytosis Renders NK Cells Hyporesponsive
Cathrine A. Miner, Tusar K. Giri, Claire E. Meyer, Mark Shabovich, and Sandeep K. Tripathy

1954 Activation-Specific Metabolic Requirements for NK Cell IFN-γ Production
Molly P. Keppel, Nermina Saucier, Annelise Y. Mah, Tiphanie P. Vogel, and Megan A. Cooper

MOLECULAR AND STRUCTURAL IMMUNOLOGY

1963 NFAT1 and JunB Cooperatively Regulate IL-31 Gene Expression in CD4+ T Cells in Health and Disease
Ji Sun Huang, Gi-Cheon Kim, EunBee Park, Jung-Eun Kim, Chang-Suk Chae, Won Huang, Changhon Lee, Sung-Min Huang, Hui Sun Wang, Chang-Duk Jun, Dipayan Rudra, and Sin-Hyeog Im
1975 Unique Ligand-Binding Property of the Human IgM Fc Receptor
Kazuhito Honjo, Yoshiki Kubagawa, John F. Kearney, and Hiromi Kubagawa

MUCOSAL IMMUNOLOGY

1983 TLR Signaling Modulates Side Effects of Anticancer Therapy in the Small Intestine
Magdalena Frank, Eva Maria Hennenberg, Annette Eyking, Michael Runzi, Guido Gerken, Paul Scott, Julian Parkhill, Alan W. Walker, and Elke Cario

TRANSPLANTATION

1996 Transplanted Bone Marrow–Derived Circulating PDGFRα+ Cells Restore Type VII Collagen in Recessive Dystrophic Epidermolysis Bullosa Mouse Skin Graft
Shin Iinuma, Eriko Aikawa, Katsuto Tamai, Ryo Fujita, Yasushi Kikuchi, Takenao Chino, Junichi Kikuta, John A. McGrath, Jouni Uitto, Masaru Ishii, Hajime Iizuka, and Yasufumi Kaneda

TUMOR IMMUNOLOGY

2004 Cancer-Associated Oxidoreductase ERO1-α Drives the Production of Tumor-Promoting Myeloid-Derived Suppressor Cells via Oxidative Protein Folding
Tsutomu Tanaka, Toshimitsu Kajiwara, Toshihiko Torigoe, Yoshiharu Okamoto, Noriyuki Sato, and Yasuaki Tamura

2011 Alkylating Agent Melphalan Augments the Efficacy of Adoptive Immunotherapy Using Tumor-Specific CD4+ T Cells
Xiaoyun Lu, Zhi-Chun Ding, Yang Cao, Chufeng Liu, Tsadik Habtetsion, Miao Yu, Henrique Lemos, Huda Salman, Hongyan Xu, Andrew L. Mellor, and Gang Zhou

NOVEL IMMUNOLOGICAL METHODS

2022 Barcoding of Live Human Peripheral Blood Mononuclear Cells for Multiplexed Mass Cytometry
Henrik E. Mei, Michael D. Leipold, Axel Ronald Schulz, Cariad Chester, and Holden T. Maecker

CORRECTIONS

2032 Correction: A238L Inhibits NF-ATc2, NF-κB, and c-Jun Activation through a Novel Mechanism Involving Protein Kinase C-θ-Mediated Up-Regulation of the Amino-Terminal Transactivation Domain of p300
Aitor G. Granja, Neil D. Perkins, and Yolanda Revilla

2033 Correction: Dual Function of CD70 in Viral Infection: Modulator of Early Cytokine Responses and Activator of Adaptive Responses
Atef Allam, Melissa Swiecki, William Vermi, Jonathan D. Ashwell, and Marco Colonna

2034 AUTHOR INDEX