This information is current as of July 25, 2017.
2927 IN THIS ISSUE

LETTERS TO THE EDITOR

2929 Comment on “Adenosinergic Regulation of the Expansion and Immunosuppressive Activity of CD11b+Gr1+ Cells”
Ivan Shevchenko, Alexandr V. Bazhin, and Viktor Umansky

2930 Response to Comment on “Adenosinergic Regulation of the Expansion and Immunosuppressive Activity of CD11b+Gr1+ Cells”
Sergey Ryzhov, Sergey V. Novitskiy, Italo Biaggioni, Mikhail M. Dikov, and Igor Feoktistov

2930 Comment on “Soluble BAFF Levels Inversely Correlate with Peripheral B Cell Numbers and the Expression of BAFF Receptors”
Gerardo Ferrer, Carol Moreno, and Emili Montserrat

2931 Response to Comment on “Soluble BAFF Levels Inversely Correlate with Peripheral B Cell Numbers and the Expression of BAFF Receptors”
Matthias Kreuzaler, Antonius G. Rolink, and Hermann Eibel

PILLARS OF IMMUNOLOGY

2933 Colonel Bruton’s Kinase Defined the Molecular Basis of X-Linked Agammaglobulinemia, the First Primary Immunodeficiency
Waif N. Khan

2936 Pillars Article: Deficient Expression of a B Cell Cytoplasmic Tyrosine Kinase in Human X-linked Agammaglobulinemia.
Satoshi Tsukada, Douglas C. Saffran, David J. Rawlings, Ornella Parolini, R. Cutler Allen, Ivana Klisak, Robert S. Sparkes, Hiromi Kubagawa, Thuluvancheri Mohandas, Shirley Quan, John W. Belmont, Max D. Cooper, Mary Ellen Conley, and Owen N. Witte


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 © 2012 by The American Association of Immunologists, Inc.

David Vetrie, Igor Vorechovsky, Patchalsi Siders, Jill Holland, Angela Davies, Frances Flinter, Lennart Hammarström, Christine Kinnon, Roland Levinsky, Martin Bobrow, C. I. Edward Smith, and David R. Bentley

**BRIEF REVIEWS**

2957 Inhibitory Receptors on Lymphocytes: Insights from Infections

*Pamela M. Odorizzi and E. John Wherry*

**CUTTING EDGE**

2967 Cutting Edge: Independent Roles for IRF-3 and IRF-7 in Hematopoietic and Nonhematopoietic Cells during Host Response to Chikungunya Infection

*Clémentine Schilte, Matthew R. Buckwalter, Melissa E. Laird, Michael S. Diamond, Olivier Schwartz, and Matthew L. Albert*

2972 Cutting Edge: Dendritic Epidermal γδ T Cell Ligands Are Rapidly and Locally Expressed by Keratinocytes following Cutaneous Wounding

*H. KiyoMi Komori, Deborah A. Witherden, Ryan Kelly, Kevin Sendaydiego, Julie M. Jameson, Luc Teyton, and Wendy L. Havran*

2977 Cutting Edge: Nitrogen Bisphosphonate-Induced Inflammation Is Dependent upon Mast Cells and IL-1

*John T. Norton, Tomoko Hayashi, Brian Crain, John S. Cho, Lloyd S. Miller, Maripat Corr, and Dennis A. Carson*

**CELLULAR IMMUNOLOGY AND IMMUNE REGULATION**

2981 Two-Compartment Model of NK Cell Proliferation: Insights from Population Response to IL-15 Stimulation

*Yun M. Zhao and Anthony R. French*

2991 Redundant and Antagonistic Functions of Galectin-1, -3, and -8 in the Elicitation of T Cell Responses

*María Virginia Tribulatti, María Gabriela Figini, Julieta Carabelli, Valentina Cattaneo, and Oscar Campetella*

3000 Neutrophilic Granulocytes Modulate Invariant NKT Cell Function in Mice and Humans

*Gerhard Wingender, Marcus Hsu, Isaac Engel, Konrad Penkert, Klaus Ley, Hermann Haller, Mitchell Kronenberg, and Sibylle von Viettinghoff*

3009 Essential Role for CAML in Follicular B Cell Survival and Homeostasis

*Nicholas A. Zane, Justin H. Gundelach, Lonn D. Lindquist, and Richard J. Bram*

3019 MicroRNA-Deficient NK Cells Exhibit Decreased Survival but Enhanced Function

*Ryan P. Sullivan, Jeffrey W. Leong, Stephanie E. Schneider, Catherine R. Keppel, Elizabeth Germino, Anthony R. French, and Todd A. Fehniger*

3031 Characterization of Ly108 in the Thymus: Evidence for Distinct Properties of a Novel Form of Ly108

*Mala Dutta and Pamela L. Schwartzberg*

3042 Downregulation of Inflammatory MicroRNAs by Ig-like Transcript 3 Is Essential for the Differentiation of Human CD8+ T Suppressor Cells

*Chih-Chao Chang, Qing-Yin Zhang, Zhubor Liu, Raphael A. Clynes, Nicole Suciu-Foca, and George Vlad*

3053 Distinct APCs Explain the Cytokine Bias of α-Galactosylceramide Variants In Vivo

*Li Bai, Michael G. Constantiniades, Seddon Y. Thomas, Rachel Reboulet, Fanyong Meng, Frank Koentgen, Luc Teyton, Paul B. Savage, and Albert Bendelac*

3062 Stimulation of Dopamine Receptor D5 Expressed on Dendritic Cells Potentiates Th17-Mediated Immunity

*Carolina Prado, Francisco Contreras, Hugo González, Pablo Díaz, Daniela Elgueta, Magaly Barrientos, Andrés A. Herrada, Álvaro Lladser, Sebastián Bernales, and Rodrigo Pacheco*
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3071</td>
<td>MHC Class Ib-Restricted CD8 T Cells Differ in Dependence on CD4 T Cell Help and CD28 Costimulation over the Course of Mouse Polyomavirus Infection</td>
<td>Amelia R. Hofstetter, Mandy L. Ford, Lucy C. Sullivan, Jarad J. Wilson, Annette Hadley, Andrew G. Brooks, and Aron E. Lukacher</td>
</tr>
<tr>
<td>3080</td>
<td>Regulating Mammalian Target of Rapamycin To Tune Vaccination-Induced CD8+ T Cell Responses for Tumor Immunity</td>
<td>Qingsheng Li, Rajesh Rao, Joseph Vazzana, Peter Goedegebuure, Kanle Odunsi, William Gillanders, and Protul A. Shrikant</td>
</tr>
<tr>
<td>3088</td>
<td>MF59 and Pam3CSK4 Boost Adaptive Responses to Influenza Subunit Vaccine through an IFN Type I-Independent Mechanism of Action</td>
<td>Elena Caproni, Elaine Tristo, Mario Cortese, Alessandro Muzzi, Flaviana Mosca, Elisabetta Monaci, Barbara Baudner, Anja Seubert, and Ennio De Gregorio</td>
</tr>
<tr>
<td>3099</td>
<td>Increased Th17 and Regulatory T Cell Responses in EBV-Induced Gene 3-Deficient Mice Lead to Marginally Enhanced Development of Autoimmune Encephalomyelitis</td>
<td>Jin-Qing Liu, Zhenzhen Liu, Xuejun Zhang, Yun Shi, Fatemeh Talebian, Joseph W. Carl, Jr., Chuan Yu, Fu-Dong Shi, Caroline C. Whitacre, Joanne Trogovich, and Xue-Feng Bai</td>
</tr>
<tr>
<td>3107</td>
<td>Inflammasome-Derived IL-1β Regulates the Production of GM-CSF by CD4+ T Cells and γδ T Cells</td>
<td>John R. Lukens, Maggie J. Barr, David D. Chaplin, Hongbo Chi, and Thirumala-Devi Kanneganti</td>
</tr>
<tr>
<td>3116</td>
<td>Type I IFN Drives a Distinctive Dendritic Cell Maturation Phenotype That Allows Continued Class II MHC Synthesis and Antigen Processing</td>
<td>Daimon P. Simmons, Pamela A. Wearsch, David H. Canaday, Howard J. Meyerson, Yi C. Liu, Ying Wang, W. Henry Boom, and Clifford V. Harding</td>
</tr>
<tr>
<td>3127</td>
<td>Galectin-1 Triggers an Immunoregulatory Signature in Th Cells Functionally Defined by IL-10 Expression</td>
<td>Filiberto Cedeno-Laurent, Matthew Opperman, Steven R. Barthel, Vijay K. Kuchroo, and Charles J. Dimitroff</td>
</tr>
<tr>
<td>3138</td>
<td>CD4+ Type II NKT Cells Mediate ICOS and Programmed Death-1–Dependent Regulation of Type 1 Diabetes</td>
<td>Nadir Kadri, Eva Korpos, Shashank Gupta, Claire Briet, Linda Lifshon, Hideo Yagita, Agnes Lehuen, Christian Boitard, Dan Hoberg, Lydia Sorokin, and Susanna L. Cardell</td>
</tr>
<tr>
<td>3150</td>
<td>T Lymphocyte Priming by Neutrophil Extracellular Traps Links Innate and Adaptive Immune Responses</td>
<td>Kati Tillack, Petra Breiden, Roland Martin, and Mireia Sospedra</td>
</tr>
<tr>
<td>3160</td>
<td>CARMA1 Controls Th2 Cell-Specific Cytokine Expression through Regulating JunB and GATA3 Transcription Factors</td>
<td>Marzenna Blonska, Donghyun Joo, Patrick A. Zweidler-Mckay, Qingyu Zhao, and Xin Lin</td>
</tr>
<tr>
<td>3169</td>
<td>Differential Risk of Tuberculosis Reactivation among Anti-TNF Therapies Is Due to Drug Binding Kinetics and Permeability</td>
<td>Mohammad Fallahi-Sichani, JoAnne L. Flynn, Jennifer J. Linderman, and Denise E. Kirschner</td>
</tr>
<tr>
<td>3179</td>
<td>Nuclear to Cytoplasmic Translocation of Heterogeneous Nuclear Ribonucleoprotein U Enhances TLR-Induced Inflammatory Cytokine Production by Stabilizing mRNAs in Macrophages</td>
<td>Wei Zhao, Lijuan Wang, Meng Zhang, Peng Wang, Junni Qi, Lei Zhang, and Chengjiang Gao</td>
</tr>
<tr>
<td>3199</td>
<td>Soluble CD23 Controls IgE Synthesis and Homeostasis in Human B Cells</td>
<td>Alison M. Cooper, Philip S. Hobart, Mark R. Jutton, Michael W. Kao, Binia Drung, Boris Schmidt, David J. Fear, Andrew J. Beavil, James M. McDonnell, Brian J. Sutton, and Hannah J. Gould</td>
</tr>
<tr>
<td>3208</td>
<td>Bone Marrow-Derived IL-13Rx1–Positive Thymic Progenitors Are Restricted to the Myeloid Lineage</td>
<td>Carola L. Haymaker, F. Betul Guloglu, Jason A. Cacio, John C. Hardaway, Mernagya Dhakal, Xiaoxiao Wan, Christine M. Hoeman, Sarah Zaghouani, Linda M. Rowland, Danielle M. Tartar, Anie M. VanMorlan, and Habib Zaghouani</td>
</tr>
</tbody>
</table>
Follicular Helper NKT Cells Induce Limited B Cell Responses and Germinal Center Formation in the Absence of CD4⁺ T Cell Help
Elena Tonti, Maya Fedeli, Anna Napolitano, Matteo Iannacone, Ulrich H. von Andrian, Luca G. Guidotti, Sergio Abrignani, Giulia Casorati, and Paolo Dellabona

Signaling through L-Selectin Mediates Enhanced Chemotaxis of Lymphocyte Subsets to Secondary Lymphoid Tissue Chemokine
Haribaran Subramanian, Jamison J. Grailer, Kimberly C. Ohlrich, Amy L. Rymeswski, Jessica J. Loppnow, Masanari Kodera, Rochelle M. Conway, and Douglas A. Steeber

Actin Reorganization Is Required for the Formation of Polarized B Cell Receptor Signalosomes in Response to Both Soluble and Membrane-Associated Antigens
Chaohong Liu, Heather Miller, Gregory Orlowski, Haijin Hang, Arpita Upadhyaya, and Wenzia Song

Spatial Alterations between CD4⁺ T Follicular Helper, B, and CD8⁺ T Cells during Simian Immunodeficiency Virus Infection: T/B Cell Homeostasis, Activation, and Potential Mechanism for Viral Escape
Jung Joo Hong, Praiseen K. Amancha, Kenneth Rogers, Aftab A. Ansari, and Francois Villinger

MOLECULAR AND STRUCTURAL IMMUNOLOGY

Dynamic MicroRNA Gene Transcription and Processing during T Cell Development
Francis F. Kirigin, Kenneth Lindstedt, Maclean Sellars, Maria Ciofani, Xiao Li Lou, Lachlan Jones, Fiona Bell, Florencia Pauli, Richard Bonneau, Richard M. Myers, Dan R. Littman, and Mark M. W. Chong

Murine Membranous Nephropathy: Immunization with α3(IV) Collagen Fragment Induces Subepithelial Immune Complexes and FcyR-Independent Nephrotic Syndrome
Jun-Jun Zhang, Mahdi Malekpour, Wentian Luo, Linna Ge, Florina Olaru, Xu-Ping Wang, Maimouna Bah, Yoshikazu Sado, Laurence Heidet, Sandra Kleinau, Agnes B. Fogo, and Dorin-Bogdan Borza

Tcra Enhancer Activation by Inducible Transcription Factors Downstream of Pre-TCR Signaling
Beatriz del Blanco, Alberto Garcia-Mariscal, David L. Wiest, and Cristina Hernández-Munain

IMMUNOGENETICS

2,3,7,8-Tetrachlorodibenzo-p-Dioxin Induces Transcriptional Activity of the Human Polymorphic hs1,2 Enhancer of the 3'Igh Regulatory Region
Tharu M. Fernando, Sharon D. Ochs, Jing Liu, Ruth C. Chambers-Turner, and Courtney E. W. Sulentic

The Lbuw2 Locus Promotes Autoimmune Hemolytic Anemia
John C. Scatizzi, Maria K. Haraldsson, K. Michael Pollard, Argyrios N. Theofilopoulos, and Dwight H. Kono

A 17q12 Allele Is Associated with Altered NK Cell Subsets and Function
Zongqi Xia, Qingquan Liu, Christoph T. Berger, Brendan T. Keenan, Anna Kaliszewska, Patrick C. Cheney, Gyan P. Srivastava, Irene Wood Castillo, Philip L. De Jager, and Galit Alter

TGF-β–Mediated Downregulation of MicroRNA-196a Contributes to the Constitutive Upregulated Type I Collagen Expression in Scleroderma Dermal Fibroblasts
Noritoshi Honda, Masatoshi Jinnin, Ikko Kajihara, Takamitsu Makino, Katunari Makino, Shinichi Masuguchi, Satoshi Fukushima, Yoshinobu Okamoto, Minoru Hasegawa, Manabu Fujimoto, and Hironobu Ihn

Intrinsic Differences in the Initiation of B Cell Receptor Signaling Favor Responses of Human IgG⁺ Memory B Cells over IgM⁺ Naive B Cells
Angel M. Davey and Susan K. Pierce

HOST DEFENSE

Extracellular Superoxide Dismutase Inhibits Innate Immune Responses and Clearance of an Intracellular Bacterial Infection
Timothy J. Break, Sujung Jun, Mohanalaxmi Indramohan, Karen D. Carr, Amy N. Sieve, Ladislav Dory, and Rance E. Berg
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3351</td>
<td>Francisella tularensis Inhibits the Intrinsic and Extrinsic Pathways To Delay Constitutive Apoptosis and Prolong Human Neutrophil Lifespan</td>
<td>Justin T. Schwartz, Jason H. Barker, Justin Kaufman, Drew C. Fayram, Jenna M. McCracken, and Lee-Ann H. Allen</td>
</tr>
<tr>
<td>3364</td>
<td>Escape from CD8+ T Cell Responses in Mamu-B*00801+ Macaques Differentiates Progressors from Elite Controllers</td>
<td>Philip A. Mudd, Adam J. Ericsen, Benjamin J. Burwitz, Nancy A. Wilson, David H. O’Connor, Austin L. Hughes, and David I. Watkins</td>
</tr>
<tr>
<td>3371</td>
<td>SHP-1 As a Critical Regulator of Mycoplasma pneumoniae-Induced Inflammation in Human Asthmatic Airway Epithelial Cells</td>
<td>Ying Wang, Zhou Zhu, Tony D. Church, Nyira L. Lugogo, Loretta G. Que, Dave Francisco, Jennifer L. Ingram, Molly Huggins, Denise M. Beaver, Jo Rae Wright, and Monica Kraft</td>
</tr>
<tr>
<td>3382</td>
<td>Pig Bone Marrow-Derived Macrophages Resemble Human Macrophages in Their Response to Bacterial Lipopolysaccharide</td>
<td>Ronan Kapetanovic, Lynsey Fairbairn, Dario Beraldi, David P. Sester, Alan L. Archibald, Christopher K. Tuggle, and David A. Hume</td>
</tr>
<tr>
<td>3395</td>
<td>Obligate Symbionts Activate Immune System Development in the Tsetse Fly</td>
<td>Brian L. Weiss, Michele Malitz, and Serap Aksoy</td>
</tr>
<tr>
<td>3404</td>
<td>Discovery of a Novel Toxoplasma gondii Conoid-Associated Protein Important for Parasite Resistance to Reactive Nitrogen Intermediates</td>
<td>Sini Skariah, Robert B. Bednarczyk, Matthew K. McIntyre, Gregory A. Taylor, and Dana G. Mordue</td>
</tr>
<tr>
<td>3416</td>
<td>Properdin Is Critical for Antibody-Dependent Bactericidal Activity against Neisseria gonorrhoeae That Recruit C4b-Binding Protein</td>
<td>Sunita Gulati, Sarika Agarwal, Shreekant Vasudev, Peter A. Rice, and Sanjay Ram</td>
</tr>
<tr>
<td>3426</td>
<td>Lymphotixin β Receptor Activation on Macrophages Induces Cross-Tolerance to TLR4 and TLR9 Ligands</td>
<td>Nadin Wimmer, Barbara Huber, Nicola Barabas, Johann Röhrl, Klaus Pfeffer, and Thomas Hehlgens</td>
</tr>
<tr>
<td>3434</td>
<td>IL-17A Differentially Regulates Corneal Vascular Endothelial Growth Factor (VEGF)-A and Soluble VEGF Receptor 1 Expression and Promotes Corneal Angiogenesis after Herpes Simplex Virus Infection</td>
<td>Amol Suryawanshi, Tamara Veiga-Parga, Pradeep B. J. Reddy, Naveen K. Rajasagi, and Barry T. Rouse</td>
</tr>
<tr>
<td>3447</td>
<td>ITAM-Coupled Receptors Inhibit IFNAR Signaling and Alter Macrophage Responses to TLR4 and Listeria monocytogenes</td>
<td>Linda Huynh, Lu Wang, Chao Shi, Kyung-Hyun Park-Min, and Lionel B. Ivashkiv</td>
</tr>
<tr>
<td>3458</td>
<td>Intrapulmonary Administration of Leukotriene B4 Augments Neutrophil Accumulation and Responses in the Lung to Klebsiella Infection in CXCL1 Knockout Mice</td>
<td>Sanjay Batra, Shan Shan Cai, Gayathry Balamayaoran, and Samthamby Jeyaseelan</td>
</tr>
<tr>
<td>3469</td>
<td>Activation of the Pyrin Inflammasome by Intracellular Burkholderia cenocepacia</td>
<td>Mikhail A. Gavrilin, Dalia H. A. Abdelaziz, Mahmoud Mostafa, Basant A. Abdulrahman, Jaykumar Grandhi, Anwari Akhter, Arwa Abu Khower, Daniel F. Aubert, Miguel A. Valvano, Mark D. Wewers, and Amal O. Amer</td>
</tr>
<tr>
<td>3478</td>
<td>A Dissociated Glucocorticoid Receptor Modulator Reduces Airway Hyperresponsiveness and Inflammation in a Mouse Model of Asthma</td>
<td>Laurent L. Reber, François Daubenfeld, Maud Plantinga, Lode De Cauwer, Sarah Gerlo, Wim Waelpel, Serge Van Calenbergh, Jan Tavernier, Guy Haegeman, Bart N. Lambrech, Nelly Frossard, and Karolien De Bouscher</td>
</tr>
<tr>
<td>3488</td>
<td>Endogenous IL-33 Is Highly Expressed in Mouse Epithelial Barrier Tissues, Lymphoid Organs, Brain, Embryos, and Inflamed Tissues: In Situ Analysis Using a Novel Il-33–LacZ Gene Trap Reporter Strain</td>
<td>Mélanie Pichery, Emilie Mirey, Pascale Mercier, Emma Lefrancais, Arnaud Dujardin, Nathalie Ortega, and Jean-Philippe Girard</td>
</tr>
</tbody>
</table>
CLINICAL IMMUNOLOGY

Inhibition of Epidermal Growth Factor Receptor Tyrosine Kinase Ameliorates Collagen-Induced Arthritis
Christina D. Swanson, Elliot H. Akama-Garren, Emily A. Stein, Jacob D. Petralia, Pedro J. Ruiz, Abdolhossein Edalati, Tamsin M. Lindstrom, and William H. Robinson

Neutrophil Extracellular Traps That Are Not Degraded in Systemic Lupus Erythematosus Activate Complement Exacerbating the Disease
Jonatan Leffler, Myriam Martin, Birgitta Gullstrand, Helena Tydén, Christian Lood, Lennart Truedsson, Anders A. Bengtsson, and Anna M. Blom

Exhaustion of Cytotoxic Effector Systems May Limit Monoclonal Antibody-Based Immunotherapy in Cancer Patients
Frank J. Beurskens, Margaret A. Lindorfer, Mohammed Farooqui, Paul V. Beum, Patrick Engelberts, Wendy J. M. Mackus, Paul W. H. I. Parren, Adrian Wiestner, and Ronald P. Taylor

Production of Autoantibodies against Citrullinated Antigens/Peptides by Human B Cells
Maria F. Bellatin, Mei Han, Margarita Fallena, Lin Fan, Donglan Xia, Nancy Olsen, Valerie Branch, David Karp, and Peter Stastny

CORRECTIONS

Correction: Cutting Edge: A TLR9 Cytoplasmic Tyrosine Motif Is Selectively Required for Proinflammatory Cytokine Production
Annapoorani Chockalingam, William Alfred Rose, II, Maroof Hasan, Chia-Hsin Ju, and Cynthia Anne Leifer

Correction: The Role of Gr1+ Cells after Anti-CD20 Treatment in Type 1 Diabetes in Nonobese Diabetic Mice
Changyun Hu, Wei Du, Xiaojun Zhang, F. Susan Wong, and Li Wen

Correction: IL-10 Regulation by HIV-Tat in Primary Human Monocytic Cells: Involvement of Calmodulin/Calmodulin-Dependent Protein Kinase-Activated p38 MAPK and Sp-1 and CREB-1 Transcription Factors
Katrina Gee, Jonathan B. Angel, Sasmita Mishra, Maria A. Blahoianu, and Ashok Kumar

AUTHOR INDEX