

**BREAKTHROUGHS TAKE TIME.  
ISOLATING CELLS SHOULDN'T.**

**STEMCELL™**  
TECHNOLOGIES

LEARN MORE >

 **The Journal of  
Immunology**

**183 (3)**

*J Immunol* 2009; 183:1501-2194; ;  
<http://www.jimmunol.org/content/183/3>

This information is current as  
of December 9, 2018.

**Why *The JI*? [Submit online.](#)**

- **Rapid Reviews! 30 days\*** from submission to initial decision
- **No Triage!** Every submission reviewed by practicing scientists
- **Fast Publication!** 4 weeks from acceptance to publication

*\*average*

**Subscription** Information about subscribing to *The Journal of Immunology* is online at:  
<http://jimmunol.org/subscription>

**Permissions** Submit copyright permission requests at:  
<http://www.aai.org/About/Publications/JI/copyright.html>

**Email Alerts** Receive free email-alerts when new articles cite this article. Sign up at:  
<http://jimmunol.org/alerts>

*The Journal of Immunology* is published twice each month by  
The American Association of Immunologists, Inc.,  
1451 Rockville Pike, Suite 650, Rockville, MD 20852  
All rights reserved.  
Print ISSN: 0022-1767 Online ISSN: 1550-6606.



### 1501 IN THIS ISSUE

#### PILLARS OF IMMUNOLOGY

- 1503 Conveying the Message: Identification of Ig- $\alpha$  and Ig- $\beta$  as Components of the B Cell Receptor Complex  
*James Hagman*
- 1505 Pillars Article: Molecular components of the B-cell antigen receptor complex of the IgM class. 1990.  
*Nature* 343: 760–762.  
*Joachim Hombach, Takeshi Tsubata, Lise Leclercq, Heike Stappert, and Michael Reth*

#### CUTTING EDGE

- 1509 Cutting Edge: SWI/SNF Mediates Antisense *Igh* Transcription and Locus-Wide Accessibility in B Cell Precursors  
*Oleg A. Osipovich, Ramesh Subrahmanyam, Steven Pierce, Ranjan Sen, and Eugene M. Oltz*
- 1514 Cutting Edge: B220<sup>+</sup>CCR9<sup>-</sup> Dendritic Cells Are Not Plasmacytoid Dendritic Cells but Are Precursors of Conventional Dendritic Cells  
*Elodie Segura, June Wong, and José A. Villadangos*
- 1518 Cutting Edge: Regulatory T Cells Directly Suppress B Cells in Systemic Lupus Erythematosus  
*Noriko Iikuni, Elaine V. Lourenço, Bevra H. Hahn, and Antonio La Cava*
- 1523 Cutting Edge: Limiting MHC Class II Expression to Dendritic Cells Alters the Ability to Develop Th2-Dependent Allergic Airway Inflammation  
*Naiqian Niu, Terri Laufer, Robert J. Homer, and Lauren Cohn*
- 1528 Cutting Edge: Necrosis Activates the NLRP3 Inflammasome  
*Hanfen Li, Aditya Ambade, and Fabio Re*

#### CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 1533 Expression of Diabetes-Associated Genes by Dendritic Cells and CD4 T Cells Drives the Loss of Tolerance in Nonobese Diabetic Mice  
*Emma E. Hamilton-Williams, Xavier Martinez, Jan Clark, Sarah Howlett, Kara M. Hunter, Daniel B. Rainbow, Li Wen, Mark J. Shlomchik, Jonathan D. Katz, Georg F. Beilhack, Linda S. Wicker, and Linda A. Sherman*

On the cover: Many of the 355 genes regulated in common by IL-12 and type I IFN during CD8 T cell differentiation change expression in response to just Ag and B7-1 within 24 hours but then revert to naive levels in the absence of a third signal provided by one of the cytokines. Agarwa, P., A. Raghavan, S. L. Nandiwada, J. M. Curtsinger, P. R. Bohjanen, D. L. Mueller, and M. F. Mescher. 2009. Gene regulation and chromatin remodeling by IL-12 and type I IFN in programming for CD8 T cell effector function and memory. *J. Immunol.* 183: 1695–1704.

*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 term: 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](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 © 2009 by The American Association of Immunologists, Inc.

- 1542 Diminished Intracellular Invariant Chain Expression after Vaccinia Virus Infection  
*Nan Wang, Ekkehard Weber, and Janice S. Blum*
- 1551 Parameters Underlying Distinct T Cell-Dependent Polysaccharide-Specific IgG Responses to an Intact Gram-Positive Bacterium versus a Soluble Conjugate Vaccine  
*Jesus Colino, Gouri Chattopadhyay, Goutam Sen, Quanyi Chen, Andrew Lees, David H. Canaday, Anatoly Rubtsov, Raul Torres, and Clifford M. Snapper*
- 1560 Expression of a CD200 Transgene Is Necessary for Induction but Not Maintenance of Tolerance to Cardiac and Skin Allografts  
*Reginald M. Gorczynski, Zhiqi Chen, William He, Ismat Khatri, Yang Sun, Kai Yu, and Ivo Boudakov*
- 1569 Murine B Cell Response to TLR7 Ligands Depends on an IFN- $\beta$  Feedback Loop  
*Nathaniel M. Green, Amy Laws, Kerstin Kiefer, Liliana Busconi, You-Me Kim, Melanie M. Brinkmann, Erin Hodges Trail, Kei Yasuda, Sean R. Christensen, Mark J. Shlomchik, Stefanie Vogel, John H. Connor, Hidde Ploegh, Dan Eilat, Ian R. Rifkin, Jean Maguire van Seventer, and Ann Marshak-Rothstein*
- 1577 Infection with a Helminth Parasite Attenuates Autoimmunity through TGF- $\beta$ -Mediated Suppression of Th17 and Th1 Responses  
*Kevin P. Walsh, Miriam T. Brady, Conor M. Finlay, Louis Boon, and Kingston H. G. Mills*
- 1587 Processing of Two Latent Membrane Protein 1 MHC Class I Epitopes Requires Tripeptidyl Peptidase II Involvement  
*Jan Diekmann, Eleni Adamopoulou, Olaf Beck, Georg Rauser, Sarah Lurati, Stefan Tenzer, Hermann Einsele, Hans-Georg Rammensee, Hansjörg Schild, and Max S. Topp*
- 1598 IFN Regulatory Factor 4 Regulates the Expression of a Subset of Th2 Cytokines  
*Ayele-Nati N. Ahyi, Hua-Chen Chang, Alexander L. Dent, Stephen L. Nutt, and Mark H. Kaplan*
- 1607 An Atopy-Associated Polymorphism in the Ectodomain of the IL-4R $\alpha$  Chain (V50) Regulates the Persistence of STAT6 Phosphorylation  
*Andrew Q. Ford, Nicola M. Heller, Linda Stephenson, Mark R. Boothby, and Ahsah D. Keegan*
- 1617 MicroRNA-98 and *let-7* Confer Cholangiocyte Expression of Cytokine-Inducible Src Homology 2-Containing Protein in Response to Microbial Challenge  
*Guoku Hu, Rui Zhou, Jun Liu, Ai-Yu Gong, Alex N. Eischeid, Jared W. Dittman, and Xian-Ming Chen*
- 1625 Anti-CD40 Monoclonal Antibody Synergizes with CTLA4-Ig in Promoting Long-Term Graft Survival in Murine Models of Transplantation  
*Christopher R. Gilson, Zvonimir Milas, Shivaprakash Gangappa, Diane Hollenbaugh, Thomas C. Pearson, Mandy L. Ford, and Christian P. Larsen*
- 1636 Tissue-Specific Abundance of Regulatory T Cells Correlates with CD8<sup>+</sup> T Cell Dysfunction and Chronic Retrovirus Loads  
*Lara Myers, Ronald J. Messer, Aaron B. Carmody, and Kim J. Hasenkrug*
- 1644 Incorporation of NKT Cell-Activating Glycolipids Enhances Immunogenicity and Vaccine Efficacy of *Mycobacterium bovis* Bacillus Calmette-Guérin  
*Manjunatha M. Venkataswamy, Andres Baena, Michael F. Goldberg, Gabriel Bricard, Jin S. Im, John Chan, Faye Reddington, Gurdyal S. Besra, William R. Jacobs, Jr., and Steven A. Porcelli*
- 1657 A Central Role for Transcription Factor C/EBP- $\beta$  in Regulating CD1d Gene Expression in Human Keratinocytes  
*Hashmat Sikder, Yuming Zhao, Anna Balato, Andre Chapoval, Rita Fischelevich, Padmaja Gade, Ishwar S. Singh, Dhananjaya V. Kalvakolanu, Peter F. Johnson, and Anthony A. Gaspari*
- 1667 Fas Apoptosis Inhibitory Molecule Enhances CD40 Signaling in B Cells and Augments the Plasma Cell Compartment  
*Hiroaki Kaku and Thomas L. Rothstein*

- 1675 Uncoordinated 119 Protein Controls Trafficking of Lck via the Rab11 Endosome and Is Critical for Immunological Synapse Formation  
*Magdalena M. Gorska, Qiaoling Liang, Zunayet Karim, and Rafeul Alam*
- 1685 Palmitoylation-Dependent Plasma Membrane Transport but Lipid Raft-Independent Signaling by Linker for Activation of T Cells  
*Matthias Hundt, Yohsuke Harada, Lauren De Giorgio, Natsuko Tanimura, Weiguo Zhang, and Amnon Altman*
- 1695 Gene Regulation and Chromatin Remodeling by IL-12 and Type I IFN in Programming for CD8 T Cell Effector Function and Memory  
*Pujya Agarwal, Arvind Raghavan, Sarada L. Nandiwada, Julie M. Curtsinger, Paul R. Bohjanen, Daniel L. Mueller, and Matthew F. Mescher*
- 1705 Spontaneous Autoimmunity Sufficiently Potent to Induce Diabetes Mellitus Is Insufficient to Protect against Insulinoma  
*Kelley Zwicker, Christa Chatten, Kathy Gratton, Doug Demetrick, Pau Serra, Afshin Shameli, Pere Santamaria, and Oliver F. Bathe*
- 1715 Inhibition of ERK MAPK Suppresses IL-23- and IL-1-Driven IL-17 Production and Attenuates Autoimmune Disease  
*Corinna F. Brereton, Caroline E. Sutton, Stephen J. Lalor, Ed C. Lavelle, and Kingston H. G. Mills*
- 1724 Human CD14<sup>+</sup> Macrophages in Intestinal Lamina Propria Exhibit Potent Antigen-Presenting Ability  
*Nobuhiko Kamada, Tadakazu Hisamatsu, Haruki Honda, Taku Kobayashi, Hiroshi Chinen, Mina Tokutake Kitazume, Tetsuro Takayama, Susumu Okamoto, Kazutaka Koganei, Akira Sugita, Takanori Kanai, and Toshifumi Hibi*
- 1732 IL-6 Is Required for Airway Mucus Production Induced by Inhaled Fungal Allergens  
*Wendy A. Neveu, Jenna B. Allard, Oliver Dienz, Matthew J. Wargo, Gennaro Ciliberto, Laurie A. Whittaker, and Mercedes Rincon*
- 1739 Mast Cell-Dependent Contraction of Human Airway Smooth Muscle Cell-Containing Collagen Gels: Influence of Cytokines, Matrix Metalloproteases, and Serine Proteases  
*Alexander Margulis, Karl H. Nocka, Agnes M. Brennan, Bijia Deng, Margaret Fleming, Samuel J. Goldman, and Marion T. Kasaiian*
- 1751 Late Endosome/Lysosome-Localized Rab7b Suppresses TLR9-Initiated Proinflammatory Cytokine and Type I IFN Production in Macrophages  
*Ming Yao, Xingguang Liu, Dong Li, Taoyong Chen, Zhen Cai, and Xuetao Cao*
- 1759 An Engineered GM-CSF-CCL2 Fusokine Is a Potent Inhibitor of CCR2-Driven Inflammation As Demonstrated in a Murine Model of Inflammatory Arthritis  
*Moutib Raféi, Yamina A. Berchiche, Elena Birman, Marie-Noëlle Boivin, Yoon Kow Young, Jian Hui Wu, Nikolaus Heveker, and Jacques Galipeau*
- 1767 Inflamed Lymphatic Endothelium Suppresses Dendritic Cell Maturation and Function via Mac-1/ICAM-1-Dependent Mechanism  
*Simona Podgrabinska, Okebugwu Kamalu, Lloyd Mayer, Motomu Shimaoka, Hans Snoeck, Gwendalyn J. Randolph, and Mihaela Skobe*
- 1780 Distinct Requirements for CD1d Intracellular Transport for Development of V $\alpha$ 14 iNKT Cells  
*Fenna C. M. Sillé, Mike Boxem, Dave Sprengers, Natacha Veerapen, Gurdyal Besra, and Marianne Boes*
- 1789 The Lytic Potential of Human Liver NK Cells Is Restricted by Their Limited Expression of Inhibitory Killer Ig-Like Receptors  
*Bryan M. Burt, George Plitas, Zeguo Zhao, Zubin M. Bamboat, Hoang M. Nguyen, Bo Dupont, and Ronald P. DeMatteo*

- 1797 Deletion of the C-Terminal Region of Dengue Virus Nonstructural Protein 1 (NS1) Abolishes Anti-NS1-Mediated Platelet Dysfunction and Bleeding Tendency  
*Mei-Chun Chen, Chiou-Feng Lin, Huan-Yao Lei, Shib-Chao Lin, Hsiao-Sheng Liu, Trai-Ming Yeh, Robert Anderson, and Yee-Shin Lin*
- 1804 SLP-76 Couples Syk to the Osteoclast Cytoskeleton  
*Jennifer L. Reeve, Wei Zou, Yuli Liu, Jonathan S. Maltzman, F. Patrick Ross, and Steven L. Teitelbaum*
- 1813 Intracellular Replication-Deficient *Leishmania donovani* Induces Long Lasting Protective Immunity against Visceral Leishmaniasis  
*Angamuthu Selvapandiyar, Ranadhir Dey, Susanne Nylen, Robert Duncan, David Sacks, and Hira L. Nakhasi*
- 1821 Antigen Specificity Is not Required for Modulation of Lung Allergic Responses by Naturally Occurring Regulatory T Cells  
*Anthony Joetham, Katsuyuki Takeda, Masakazu Okamoto, Christian Taube, Hiroyuki Matsuda, Azzeddine Dakhama, and Erwin W. Gelfand*
- 1828 Recurrence of Intracranial Tumors following Adoptive T Cell Therapy Can Be Prevented by Direct and Indirect Killing Aided by High Levels of Tumor Antigen Cross-Presented on Stromal Cells  
*Diana L. Thomas, Miri Kim, Natalie A. Bowerman, Samantha Narayanan, David M. Kranz, Hans Schreiber, and Edward J. Roy*
- 1838 Human B Cells Secrete Granzyme B When Recognizing Viral Antigens in the Context of the Acute Phase Cytokine IL-21  
*Magdalena Hagn, Elisabeth Schwesinger, Verena Ebel, Kai Sontheimer, Julia Maier, Tamara Beyer, Tatiana Syrovets, Yves Laumonnier, Dorit Fabricius, Thomas Simmet, and Bernd Jahrsdörfer*

## MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 1846 A Critical Role for REV1 in Regulating the Induction of C:G Transitions and A:T Mutations during Ig Gene Hypermutation  
*Keiji Masuda, Rika Ouchida, Yingqian Li, Xiang Gao, Hiromi Mori, and Ji-Yang Wang*
- 1851 Trimer Stabilization, Oligomerization, and Antibody-Mediated Cell Surface Immobilization Improve the Activity of Soluble Trimers of CD27L, CD40L, 41BBL, and Glucocorticoid-Induced TNF Receptor Ligand  
*Agnes Wyzgol, Nicole Müller, Andrea Fick, Sabine Munkel, Goetz Ulrich Grigoleit, Klaus Pfizenmaier, and Harald Wajant*
- 1862 The Mechanism of Osteoclast Differentiation Induced by IL-1  
*Jung Ha Kim, Hye Mi Jin, Kabsun Kim, Insun Song, Bang Ung Youn, Koichi Matsuo, and Nacksung Kim*
- 1871 Flexible Stereospecific Interactions and Composition within Nucleoprotein Complexes Assembled on the TCR $\alpha$  Gene Enhancer  
*Beatriz del Blanco, Joseph L. Roberts, Noelia Zamarreño, Nadège Balmelle-Devaux, and Cristina Hernández-Munain*
- 1884 Novel MHC Class I Structures on Exosomes  
*Sarah Lynch, Susana G. Santos, Elaine C. Campbell, Ailish M. S. Nimmo, Catherine Botting, Alan Prescott, Antony N. Antoniou, and Simon J. Powis*

## HOST DEFENSE

- 1892 Genetically Detoxified Pertussis Toxin Induces Th1/Th17 Immune Response through MAPKs and IL-10-Dependent Mechanisms  
*Maria Nasso, Giorgio Fedele, Fabiana Spensieri, Raffaella Palazzo, Paolo Costantino, Rino Rappuoli, and Clara Maria Ausiello*
- 1900 Selective Expansion of the Monocytic Lineage Directed by Bacterial Infection  
*Natalya V. Serbina, Tobias M. Hohl, Mathew Cherny, and Eric G. Pamer*

- 1911 CD1d-Based Combination Therapy Eradicates Established Tumors in Mice  
*Michele W. L. Teng, Janelle Sharkey, Nicole M. McLaughlin, Mark A. Exley, and Mark J. Smyth*
- 1921 The p110 $\delta$  Isoform of Phosphatidylinositol 3-Kinase Controls Susceptibility to *Leishmania major* by Regulating Expansion and Tissue Homing of Regulatory T Cells  
*Dong Liu, Tingting Zhang, Aaron J. Marshall, Klaus Okkenhaug, Bart Vanhaesebroeck, and Jude E. Uzonna*
- 1934 IL-13 Receptor  $\alpha$ 2 Regulates the Immune and Functional Response to *Nippostrongylus brasiliensis* Infection  
*Motoko Morimoto, Aiping Zhao, Rex Sun, Jennifer Stiltz, Kathleen B. Madden, Margaret Mentink-Kane, Thirumalai Ramalingam, Thomas A. Wynn, Joseph F. Urban, Jr., and Terez Shea-Donohue*
- 1940 NKG2D-Dependent IL-17 Production by Human T Cells in Response to an Intracellular Pathogen  
*Padmaja Paidipally, Sivakumar Periasamy, Peter F. Barnes, Rohan Dhiman, Mohanalaxmi Indramohan, David E. Griffith, David Cosman, and Ramakrishna Vankayalapati*
- 1946 B and T Lymphocyte Attenuator Tempers Early Infection Immunity  
*Yonglian Sun, Nicholas K. Brown, Matthew J. Ruddy, Mendy L. Miller, Youjin Lee, Yang Wang, Kenneth M. Murphy, Klaus Pfeffer, Lieping Chen, Jonathan Kaye, and Yang-Xin Fu*
- 1952 Pneumococcal Interaction with Human Dendritic Cells: Phagocytosis, Survival, and Induced Adaptive Immune Response Are Manipulated by PavA  
*Nadja Noske, Ulrike Kämmerer, Manfred Rohde, and Sven Hammerschmidt*
- 1964 The CCL7-CCL2-CCR2 Axis Regulates IL-4 Production in Lungs and Fungal Immunity  
*Wendy A. Szymczak and George S. Deepe, Jr.*
- 1975 Microarray Analysis of Lymphatic Tissue Reveals Stage-Specific, Gene Expression Signatures in HIV-1 Infection  
*Qingsheng Li, Anthony J. Smith, Timothy W. Schacker, John V. Carlis, Lijie Duan, Cavan S. Reilly, and Ashley T. Haase*
- 1983 Alveolar Macrophages Transport Pathogens to Lung Draining Lymph Nodes  
*Alun C. Kirby, Mark C. Coles, and Paul M. Kaye*
- 1990 Lack of CD200 Enhances Pathological T Cell Responses during Influenza Infection  
*Tomasz P. Rygiel, Eva S. K. Rijkers, Talitha de Ruiter, Ellen H. Stolte, Martin van der Valk, Guus F. Rimmelzwaan, Louis Boon, Anton M. van Loon, Frank E. Coenjaerts, Robert M. Hoek, Kiki Tesselaar, and Linde Meyaard*
- 1997 *Mycobacterium abscessus* Glycopeptidolipids Mask Underlying Cell Wall Phosphatidyl-*myo*-Inositol Mannosides Blocking Induction of Human Macrophage TNF- $\alpha$  by Preventing Interaction with TLR2  
*Elizabeth R. Rhoades, Angela S. Archambault, Rebecca Greendyke, Fong-Fu Hsu, Cassandra Streeter, and Thomas F. Byrd*
- 2008 NLRP3 (NALP3, Cryopyrin) Facilitates In Vivo Caspase-1 Activation, Necrosis, and HMGB1 Release via Inflammasome-Dependent and -Independent Pathways  
*Stephen B. Willingham, Irving C. Allen, Daniel T. Bergstralh, Willie June Brickey, Max Tze-Han Huang, Debra J. Taxman, Joseph A. Duncan, and Jenny P.-Y. Ting*
- 2016 STAT1 Negatively Regulates Lung Basophil IL-4 Expression Induced by Respiratory Syncytial Virus Infection  
*Martin L. Moore, Dawn C. Newcomb, Vrajesh V. Parekh, Luc Van Kaer, Robert D. Collins, Weisong Zhou, Kasia Goleniewska, Michael H. Chi, Daphne Mitchell, Joshua A. Boyce, Joan E. Durbin, Carla Sturkie, and R. Stokes Peebles, Jr.*
- 2027 TREM-1 Activation Alters the Dynamics of Pulmonary IRAK-M Expression In Vivo and Improves Host Defense during Pneumococcal Pneumonia  
*Heimo Lagler, Omar Sharif, Isabella Haslinger, Ulrich Matt, Karin Stich, Tanja Furtner, Bianca Doninger, Katharina Schmid, Rainer Gattringer, Alex F. de Vos, and Sylvia Knapp*

## INFLAMMATION

- 2037 IL-27 Regulates Homeostasis of the Intestinal CD4<sup>+</sup> Effector T Cell Pool and Limits Intestinal Inflammation in a Murine Model of Colitis  
*Amy E. Troy, Colby Zaph, Yurong Du, Betsy C. Taylor, Katherine J. Guild, Christopher A. Hunter, Christiaan J. M. Saris, and David Artis*
- 2045 Suppression of Regulatory T Cells by IL-12p40 Homodimer via Nitric Oxide  
*Saurav Brahmachari and Kalipada Pahan*
- 2059 Esculetin Restores Mitochondrial Dysfunction and Reduces Allergic Asthma Features in Experimental Murine Model  
*Ulaganathan Mabalirajan, Amit Kumar Dinda, Surendra Kumar Sharma, and Balaram Ghosh*
- 2068 TNF- $\alpha$  Preconditioning Protects Neurons via Neuron-Specific Up-Regulation of CREB-Binding Protein  
*Ramendra N. Saha, Anamitra Ghosh, Carlos A. Palencia, Yiu K. Fung, Serena M. Dudek, and Kalipada Pahan*
- 2079 Site-Specific Production of IL-6 in the Central Nervous System Retargets and Enhances the Inflammatory Response in Experimental Autoimmune Encephalomyelitis  
*Albert Quintana, Marcus Müller, Ricardo F. Frausto, Raquel Ramos, Daniel R. Getts, Elisenda Sanz, Markus J. Hofer, Marius Krauthausen, Nicholas J. C. King, Juan Hidalgo, and Iain L. Campbell*
- 2089 Effects of Low-Dose Aspirin on Acute Inflammatory Responses in Humans  
*Thea Morris, Melanie Stables, Adrian Hobbs, Patricia de Souza, Paul Colville-Nash, Tim Warner, Justine Newson, Geoffrey Bellingan, and Derek W. Gilroy*
- 2097 Distinct Roles of Sphingosine Kinase 1 and 2 in Murine Collagen-Induced Arthritis  
*Wen-Qi Lai, Anastasia Windy Irwan, Hong Heng Goh, Alirio J. Melendez, Iain B. McInnes, and Bernard P. Leung*
- 2104 Crystal-Induced Neutrophil Activation: XI. Implication and Novel Roles of Classical Protein Kinase C  
*Oana Popa-Nita, Sophie Proulx, Guillaume Paré, Emmanuelle Rollet-Labelle, and Paul H. Naccache*
- 2115 Maternal Exposure to Secondhand Cigarette Smoke Primes the Lung for Induction of Phosphodiesterase-4D5 Isozyme and Exacerbated Th2 Responses: Rolipram Attenuates the Airway Hyperreactivity and Muscarinic Receptor Expression but Not Lung Inflammation and Atopy  
*Shashi P. Singh, Neerad C. Mishra, Jules Rir-sima-ab, Mathew Campen, Viswanath Kurup, Seddigbeh Razani-Boroujerdi, and Mohan L. Sopori*
- 2122 Dying and Necrotic Neutrophils Are Anti-Inflammatory Secondary to the Release of  $\alpha$ -Defensins  
*Katherine Miles, David J. Clarke, Wuyuan Lu, Zaneta Sibinska, Paula E. Beaumont, Donald J. Davidson, Tom A. Barr, Dominic J. Campopiano, and Mohini Gray*
- 2133 Suplatast Tosilate Inhibits Histamine Signaling by Direct and Indirect Down-Regulation of Histamine H<sub>1</sub> Receptor Gene Expression through Suppression of Histidine Decarboxylase and IL-4 Gene Transcriptions  
*Masum Shahriar, Hiroyuki Mizuguchi, Kazutaka Maeyama, Yoshiaki Kitamura, Naoki Orimoto, Shuhei Horio, Hayato Umebara, Masashi Hattori, Noriaki Takeda, and Hiroyuki Fukui*
- 2142 Skin and Peripheral Lymph Node Invariant NKT Cells Are Mainly Retinoic Acid Receptor-Related Orphan Receptor  $\gamma$ <sup>+</sup> and Respond Preferentially under Inflammatory Conditions  
*Jean-Marc Doisne, Chantal Becourt, Latiffa Amniai, Nadia Duarte, Jean-Benoît Le Ludeuc, Gérard Eberl, and Kamel Benlagha*
- 2150 MicroRNA-146a Feedback Inhibits RIG-I-Dependent Type I IFN Production in Macrophages by Targeting TRAF6, IRAK1, and IRAK2  
*Jin Hou, Pin Wang, Li Lin, Xingguang Liu, Feng Ma, Huazhang An, Zhugang Wang, and Xuetao Cao*
- 2159 IL-8 Regulates Mucin Gene Expression at the Posttranscriptional Level in Lung Epithelial Cells  
*Maria V. Bautista, Yajun Chen, Vessela S. Ivanova, Michael K. Rabimi, Alan M. Watson, and Mary C. Rose*

- 2167 Glucocorticoids Induce Protein S-Dependent Phagocytosis of Apoptotic Neutrophils by Human Macrophages  
*Aisleen McColl, Stylianos Bournazos, Sandra Franz, Mauro Perretti, B. Paul Morgan, Christopher Haslett, and Ian Dransfield*

## CLINICAL IMMUNOLOGY

- 2176 Atypical Memory B Cells Are Greatly Expanded in Individuals Living in a Malaria-Endemic Area  
*Greta E. Weiss, Peter D. Crompton, Shanping Li, Laura A. Walsh, Susan Moir, Boubacar Traore, Kassoum Kayentao, Aissata Ongoiba, Ogobara K. Doumbo, and Susan K. Pierce*
- 2183 JAK3 Inhibition Significantly Attenuates Psoriasiform Skin Inflammation in CD18 Mutant PL/J Mice  
*Betty Y. Chang, Feifei Zhao, Xiaodong He, Hong Ren, Sylvia Braselmann, Vanessa Taylor, Joan Wicks, Donald G. Payan, Elliott B. Grossbard, Polly R. Pine, and Daniel C. Bullard*

## LETTERS OF RETRACTION

- 2193 Retraction: Endogenous IL-15 Sustains Recruitment of IL-2R $\beta$  and Common  $\gamma$  and IL-2-Mediated Chemokine Production in Normal and Inflamed Human Gingival Fibroblasts  
*Akiko Ozawa, Hiroyuki Tada, Yumiko Sugawara, Akiko Uehara, Takashi Sasano, Hidetoshi Shimauchi, Haruhiko Takada, and Shunji Sugawara*

- 2194 CORRECTIONS

- 2195 AUTHOR INDEX