



## Antibody Isotype Families

Switch natural isotype

InvivoGen



197 (3)

*J Immunol* 2016; 197:679-1003; ;  
<http://www.jimmunol.org/content/197/3>

This information is current as  
of December 14, 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.



## IN THIS ISSUE

- 679 **NEC Wreaks Havoc on Neonatal Lungs** *See article p. 859*  
**ARAP Arbitrates T Cell Activation and Adhesion** *See article p. 942*  
**AIMing for Ag-Specific T Cells** *See articles p. 983 and 994*

## PILLARS OF IMMUNOLOGY

- 681 Turning on the Lights inside Neutrophils  
*Robert L. Fairchild*
- 683 Pillars Article: Flow Cytometric Studies of Oxidative Product Formation by Neutrophils: A Graded Response to Membrane Stimulation. *J. Immunol.* 1983. 130: 1910–1917  
*David A. Bass, J. Wallace Parce, Lawrence R. Dechatelet, Pamela Szejda, Michael C. Seeds, and Michael Thomas*

## BRIEF REVIEWS

- 691 Immunological Consequences of Epithelial–Mesenchymal Transition in Tumor Progression  
*Peter J. Chockley and Venkateshwar G. Keshamouni*

## CUTTING EDGE

- 701 Cutting Edge: Commensal Microbiota Has Disparate Effects on Manifestations of Polyglandular Autoimmune Inflammation  
*Camilla H. F. Hansen, Leonid A. Yurkovetskiy, and Alexander V. Chervonsky*

## ALLERGY AND OTHER HYPERSENSITIVITIES

- 707 Paired Ig-like Receptor B Inhibits IL-13–Driven Eosinophil Accumulation and Activation in the Esophagus  
*Netali Ben Baruch-Morgenstern, Melissa K. Mingler, Emily Stucke, John A. Besse, Ting Wen, Hadar Reichman, Ariel Munitz, and Marc E. Rothenberg*

On the cover: Representative image of immunofluorescent detection of DAPI (blue), Mac3 (macrophage marker; green), and vascular endothelial growth factor (prohealing macrophage marker; red) in day 7 wound of diabetic mouse following gene transfer of *Hoxa3* to the wound tissue. Al Sadoun, H., M. Burgess, K. E. Hentges, and K. A. Mace. 2016. Enforced expression of *Hoxa3* inhibits classical and promotes alternative activation of macrophages in vitro and in vivo. *J. Immunol.* 196: 872–884.

*The Journal of Immunology* (ISSN 0022-1767) is published twice each month by The American Association of Immunologists, Inc., 1451 Rockville Pike, Suite 650, Rockville, MD 20852, 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](http://www.jimmunol.org/pdf/single_issue_purchase.pdf)). Reprints of individual articles are available only from authors. Periodicals postage paid at Rockville, MD 20852, 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, 1451 Rockville Pike, Suite 650, Rockville, MD 20852. Copyright © 2016 by The American Association of Immunologists, Inc.

## CLINICAL AND HUMAN IMMUNOLOGY

- 715 Human Memory B Cells in Healthy Gingiva, Gingivitis, and Periodontitis  
*Rangisini Mahanonda, Chantrakorn Champaiboon, Keskanya Subbalekha, Noppadol Sa-Ard-Iam, Warattaya Rattanathammatada, Saranya Thawanaphong, Pimprapa Rerkyen, Fuminobu Yoshimura, Keiji Nagano, Niklaus P. Lang, and Sathit Pichyangkul*

## IMMUNE REGULATION

- 726 Osteoclast-Primed Foxp3<sup>+</sup> CD8 T Cells Induce T-bet, Eomesodermin, and IFN- $\gamma$  To Regulate Bone Resorption  
*Elena V. Shashkova, Jahnavi Trivedi, Anna B. Cline-Smith, Chloe Ferris, Zachary S. Buchwald, Jesse Gibbs, Deborah Novack, and Rajeev Aurora*
- 736 Alternative Splice Transcripts for MHC Class I-like MICA Encode Novel NKG2D Ligands with Agonist or Antagonist Functions  
*Pierre-Jean Gavlovsky, Pierre Tonnerre, Nathalie Gérard, Steven Nedellec, Andrew W. Daman, Benjamin J. McFarland, and Béatrice Charreau*
- 747 AMP-Activated Protein Kinase Suppresses Autoimmune Central Nervous System Disease by Regulating M1-Type Macrophage–Th17 Axis  
*Ashutosh K. Mangalam, Ramandeep Rattan, Hamid Subail, Jaspreet Singh, Md Nasrul Hoda, Mandar Deshpande, Sadanand Fulzele, Alexander Denic, Viji Shridhar, Ashok Kumar, Benoit Viollet, Moses Rodriguez, and Shailendra Giri*
- 761 Constitutive CD40 Signaling Calibrates Differentiation Outcomes in Responding B Cells via Multiple Molecular Pathways  
*Srijani Basu, Sheetal Kaw, Lucas D'Souza, Tusbar Vaidya, Vineeta Bal, Satyajit Rath, and Anna George*

## IMMUNE SYSTEM DEVELOPMENT

- 771 Notch Signaling Regulates the Homeostasis of Tissue-Restricted Innate-like T Cells  
*Vijaykumar Chennupati, Ute Koch, Manuel Coutaz, Leonardo Scarpellino, Fabienne Tacchini-Cottier, Sanjiv A. Luther, Freddy Radtke, Dietmar Zehn, and H. Robson MacDonald*

## IMMUNOGENETICS

- 783 Extensive Allelic Diversity of MHC Class I in Wild Mallard Ducks  
*Ximena Fleming-Canepa, Shawna M. Jensen, Christine M. Mesa, Laura Diaz-Satizabal, Alexa J. Roth, Julie A. Parks-Dely, Debra A. Moon, Janet P. Wong, Danyel Evseev, Desolie A. Gossen, David G. Tetrault, and Katharine E. Magor*

## IMMUNOTHERAPY AND VACCINES

- 795 NK Cell Activation in the Antitumor Response Induced by IFN- $\alpha$  Dendritic Cells Loaded with Apoptotic Cells from Follicular Lymphoma Patients  
*Caterina Lapenta, Simona Donati, Francesca Spadaro, Paolo Castaldo, Filippo Belardelli, Maria C. Cox, and Stefano M. Santini*
- 807 The Therapeutic CD38 Monoclonal Antibody Daratumumab Induces Programmed Cell Death via Fc $\gamma$  Receptor–Mediated Cross-Linking  
*Marije B. Overdijk, J. H. Marco Jansen, Maaike Nederend, Jeroen J. Lammerts van Bueren, Richard W. J. Groen, Paul W. H. I. Parren, Jeanette H. W. Leusen, and Peter Boross*

## INFECTIOUS DISEASE AND HOST RESPONSE

- 814 CD73 Inhibition Shifts Cardiac Macrophage Polarization toward a Microbicidal Phenotype and Ameliorates the Outcome of Experimental Chagas Cardiomyopathy  
*Nicolás Eric Ponce, Liliana Maria Sanmarco, Natalia Eberhardt, Mónica Cristina García, Héctor Walter Rivarola, Roxana Carolina Cano, and Maria Pilar Aoki*

824 FAT10 Is Critical in Influenza A Virus Replication by Inhibiting Type I IFN  
*Yanli Zhang, Jun Tang, Ning Yang, Qiang Liu, Qingchao Zhang, Yanxu Zhang, Ning Li, Yan Zhao, Shunwang Li, Song Liu, Huandi Zhou, Xiao Li, Mingyao Tian, Jiejie Deng, Peng Xie, Yang Sun, Huijun Lu, Michael Q. Zhang, Ningyi Jin, and Chengyu Jiang*

834 Heme Oxygenase-1 and Carbon Monoxide Promote *Burkholderia pseudomallei* Infection  
*Claudia Stolt, Imke H. E. Schmidt, Yana Sayfart, Ivo Steinmetz, and Antje Bast*

## INNATE IMMUNITY AND INFLAMMATION

847 Ribosome Inactivation Leads to Attenuation of Intestinal Polymeric Ig Receptor Expression via Differential Regulation of Human Antigen R  
*Kee Hun Do, Seong-Hwan Park, Juil Kim, Mira Yu, and Yuseok Moon*

859 Pulmonary Epithelial TLR4 Activation Leads to Lung Injury in Neonatal Necrotizing Enterocolitis  
*Hongpeng Jia, Chhinder P. Sodhi, Yukihiko Yamaguchi, Peng Lu, Laura Y. Martin, Misty Good, Qinjie Zhou, Jungeun Sung, William B. Fulton, Diego F. Nino, Thomas Prindle, Jr., John A. Ozolek, and David J. Hackam*

872 Enforced Expression of Hoxa3 Inhibits Classical and Promotes Alternative Activation of Macrophages In Vitro and In Vivo  
*Hadeel Al Sadoun, Matthew Burgess, Kathryn E. Hentges, and Kimberly A. Mace*

885 Characterization of the Expression and Function of the C-Type Lectin Receptor CD302 in Mice and Humans Reveals a Role in Dendritic Cell Migration  
*Tsun-Ho Lo, Pablo A. Silveira, Phillip D. Fromm, Nirupama D. Verma, Phi A. Vu, Fiona Kupresanin, Rhonda Adam, Masato Kato, Victoria C. Cogger, Georgina J. Clark, and Derek N. J. Hart*

899 Stromelysin-2 (MMP10) Moderates Inflammation by Controlling Macrophage Activation  
*Ryan S. McMahan, Timothy P. Birkland, Kate S. Smigiel, Tyler C. Vandivort, Maryam G. Rohani, Anne M. Manicone, John K. McGuire, Sina A. Gharib, and William C. Parks*

910 Cooperative Activity of GABP with PU.1 or C/EBP $\epsilon$  Regulates Lamin B Receptor Gene Expression, Implicating Their Roles in Granulocyte Nuclear Maturation  
*Krishnakumar Malu, Rahul Garhwal, Margery G. H. Pelletier, Deepali Gotur, Stephanie Halene, Monika Zwerger, Zhong-Fa Yang, Alan G. Rosmarin, and Peter Gaines*

923 cFLIP<sub>L</sub> Interrupts IRF3–CBP–DNA Interactions To Inhibit IRF3-Driven Transcription  
*Lauren T. Gates and Joanna L. Shisler*

934 Diacylglycerol Kinase  $\zeta$  Is a Target To Enhance NK Cell Function  
*Enjun Yang, Brenal K. Singh, Amanda M. Schmidt Paustian, and Taku Kambayashi*

## MOLECULAR AND STRUCTURAL IMMUNOLOGY

942 ARAP, a Novel Adaptor Protein, Is Required for TCR Signaling and Integrin-Mediated Adhesion  
*Seung Hee Jung, Eun Hye Yoo, Mi Jin Yu, Hyeon Myeong Song, Hee Yoon Kang, Je-Yoel Cho, and Jong Ran Lee*

## TUMOR IMMUNOLOGY

953 NK Cells Restrain Spontaneous Antitumor CD8<sup>+</sup> T Cell Priming through PD-1/PD-L1 Interactions with Dendritic Cells  
*Ximena L. Raffo Iraolagoitia, Raul G. Spallanzani, Nicolás I. Torres, Romina E. Araya, Andrea Ziblat, Carolina I. Domaica, Jessica M. Sierra, Sol Y. Nuñez, Florencia Secchiari, Thomas F. Gajewski, Norberto W. Zwirner, and Mercedes B. Fuertes*

962 Tolerogenic Phenotype of IFN- $\gamma$ -Induced IDO<sup>+</sup> Dendritic Cells Is Maintained via an Autocrine IDO–Kynurenine/AhR–IDO Loop  
*Qingsheng Li, Jamie L. Harden, Charles D. Anderson, and Nejat K. Egilmez*

## NOVEL IMMUNOLOGICAL METHODS

- 971 Engineering of Isogenic Cells Deficient for MR1 with a CRISPR/Cas9 Lentiviral System: Tools To Study Microbial Antigen Processing and Presentation to Human MR1-Restricted T Cells  
*Bruno Laugel, Angharad Lloyd, Erin W. Meermeier, Michael D. Crowther, Thomas R. Connor, Garry Dolton, John J. Miles, Scott R. Burrows, Marielle C. Gold, David M. Lewinsohn, and Andrew K. Sewell*
- 983 A Cytokine-Independent Approach To Identify Antigen-Specific Human Germinal Center T Follicular Helper Cells and Rare Antigen-Specific CD4<sup>+</sup> T Cells in Blood  
*Jennifer M. Dan, Cecilia S. Lindestam Arlehamn, Daniela Weiskopf, Ricardo da Silva Antunes, Colin Havenar-Daughton, Samantha M. Reiss, Matthew Brigger, Marcella Bothwell, Alessandro Sette, and Shane Crotty*
- 994 Cytokine-Independent Detection of Antigen-Specific Germinal Center T Follicular Helper Cells in Immunized Nonhuman Primates Using a Live Cell Activation-Induced Marker Technique  
*Colin Havenar-Daughton, Samantha M. Reiss, Diane G. Carnathan, Jennifer E. Wu, Kayla Kendric, Alba Torrents de la Peña, Sudhir Pai Kasturi, Jennifer M. Dan, Marcella Bothwell, Rogier W. Sanders, Bali Pulendran, Guido Silvestri, and Shane Crotty*

## CORRECTIONS

- 1003 Correction: Discriminating Protective from Nonprotective *Plasmodium*-Specific CD8<sup>+</sup> T Cell Responses  
*Katherine L. Doll, Lecia L. Pewe, Samarth P. Kurup, and John T. Harty*
- 1004 AUTHOR INDEX