

This information is current as
of August 14, 2022.

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>

1069 IN THIS ISSUE

LETTERS TO THE EDITOR

- 1071 Comment on “IL-3 Attenuates Collagen-Induced Arthritis by Modulating the Development of Foxp3⁺ Regulatory T Cells”
Xiao-Min Wu, Shou-Xing Zhu, Wei-Min Zhu, and Ye Zhang

- 1071 Response to Comment on “IL-3 Attenuates Collagen-Induced Arthritis by Modulating the Development of Foxp3⁺ Regulatory T Cells”
Rupesh K. Srivastava, Gyan C. Mishra, and Mohan R. Wani

PILLARS OF IMMUNOLOGY

- 1073 Uncovering the Role of Invariant Chain in Controlling MHC Class II Antigen Capture
Ronald N. Germain

- 1076 Pillars Article: Proteolysis of the Class II-Associated Invariant Chain Generates a Peptide Binding Site in Intracellular HLA-DR Molecules. *Proc. Natl. Acad. Sci. USA.* 1991. 88: 3150–3154.
Paul A. Roche and Peter Cresswell

BRIEF REVIEWS

- 1081 NKT Cell Ligand Recognition Logic: Molecular Basis for a Synaptic Duet and Transmission of Inflammatory Effectors
Sebastian Joyce, Enrico Girardi, and Dirk M. Zajonc

CUTTING EDGE

- 1091 Cutting Edge: Dendritic Cell-Restricted Antigen Presentation Initiates the Follicular Helper T Cell Program but Cannot Complete Ultimate Effector Differentiation
Radhika Goenka, Lisa G. Barnett, Jonathan S. Silver, Patrick J. O'Neill, Christopher A. Hunter, Michael P. Cancro, and Terri M. Laufer

On the cover: In multiple sclerosis (MS), autoimmune demyelination leads to paralysis and blindness. This image illustrates a CNS coculture in which myelin segments appear as linear yellow profiles. In this issue, Zhang et al. show that IL-11 promotes myelin repair in MS models via a balance in activity of Stat3 versus Stat1. Zhang, J., Y. Zhang, D. J. Dutta, A. T. Argaw, V. Bonnamain, J. Seto, D. A. Braun, A. Zameer, F. Hayot, C. B. López, C. S. Raine, and G. R. John. 2011. Proapoptotic and antiapoptotic actions of Stat1 versus Stat3 underlie neuroprotective and immunoregulatory functions of IL-11. *J. Immunol.* 187: 1129–1141.

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 © 2011 by The American Association of Immunologists, Inc.

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 1097 The Programmed Death-1 Ligand 1:B7-1 Pathway Restrains Diabetogenic Effector T Cells In Vivo
Alison M. Paterson, Keturah E. Brown, Mary E. Keir, Vijay K. Vanguri, Leonardo V. Riella, Anil Chandraker, Mohamed H. Sayegh, Bruce R. Blazar, Gordon J. Freeman, and Arlene H. Sharpe
- 1106 The Tuberos Sclerosis Complex–Mammalian Target of Rapamycin Pathway Maintains the Quiescence and Survival of Naive T Cells
Qi Wu, Yu Liu, Chong Chen, Tsuneo Ikenoue, Yu Qiao, Chi-Shan Li, Wei-quan Li, Kun-Liang Guan, Yang Liu, and Pan Zheng
- 1113 The Novel Costimulatory Programmed Death Ligand 1/B7.1 Pathway Is Functional in Inhibiting Alloimmune Responses In Vivo
Jun Yang, Leonardo V. Riella, Susanne Chock, Tao Liu, Xiaozhi Zhao, Xueli Yuan, Alison M. Paterson, Toshihiko Watanabe, Vijay Vanguri, Hideo Yagita, Miyuki Azuma, Bruce R. Blazar, Gordon J. Freeman, Scott J. Rodig, Arlene H. Sharpe, Anil Chandraker, and Mohamed H. Sayegh
- 1120 4-1BB Triggering Ameliorates Experimental Autoimmune Encephalomyelitis by Modulating the Balance between Th17 and Regulatory T Cells
Young H. Kim, Beom K. Choi, Su M. Shin, Chang H. Kim, Ho S. Oh, Sang H. Park, Don G. Lee, Myoung J. Lee, Kwang H. Kim, Dass S. Vinay, and Byoung S. Kwon
- 1129 Proapoptotic and Antiapoptotic Actions of Stat1 versus Stat3 Underlie Neuroprotective and Immunoregulatory Functions of IL-11
Jingya Zhang, Yueting Zhang, Dipankar J. Dutta, Azeb T. Argaw, Virginie Bonnamain, Jeremy Seto, David A. Braun, Andleeb Zameer, Fernand Hayot, Carolina B. Lopez, Cedric S. Raine, and Gareth R. John
- 1142 Human Epidermal Langerhans Cells Replenish Skin Xenografts and Are Depleted by Alloreactive T Cells In Vivo
Julia Hemmerling, Joanna Wegner-Kops, Esther von Stebut, Diana Wolff, Eva M. Wagner, Udo F. Hartwig, Maya C. André, Matthias Theobald, Rudolf E. Schopf, Wolfgang Herr, and Ralf G. Meyer
- 1150 Obstructive Jaundice Expands Intrahepatic Regulatory T Cells, Which Impair Liver T Lymphocyte Function but Modulate Liver Cholestasis and Fibrosis
Steven C. Katz, Kristin Ryan, Naseem Ahmed, George Plitas, Umer I. Chaudhry, T. Peter Kingham, Seema Naheed, Cang Nguyen, Ponnandai Somasundar, N. Joseph Espat, Richard P. Junghans, and Ronald P. DeMatteo
- 1157 M2 Macrophages Induced by Prostaglandin E₂ and IL-6 from Cervical Carcinoma Are Switched to Activated M1 Macrophages by CD4⁺ Th1 Cells
Moniek Heusinkveld, Peggy J. de Vos van Steenwijk, Renske Goedemans, Tamara H. Ramwadhoebe, Arko Gorter, Marij J. P. Welters, Thorbald van Hall, and Sjoerd H. van der Burg
- 1166 A Critical Role for Granzymes in Antigen Cross-Presentation through Regulating Phagocytosis of Killed Tumor Cells
Sabine Hoves, Vivien R. Sutton, Nicole M. Haynes, Edwin D. Hawkins, Daniel Fernández Ruiz, Nikola Baschuk, Karin A. Sedelies, Maximilian Schnurr, John Stagg, Daniel M. Andrews, Jose A. Villadangos, and Joseph A. Trapani
- 1176 Repetitive Immunization Breaks Tolerance to Type XVII Collagen and Leads to Bullous Pemphigoid in Mice
Misa Hirose, Andreas Recke, Tina Beckmann, Atsushi Shimizu, Akira Ishiko, Katja Bieber, Jürgen Westermann, Detlef Zillikens, Enno Schmidt, and Ralf J. Ludwig
- 1184 TNF Receptor 1 Mediates Dendritic Cell Maturation and CD8 T Cell Response through Two Distinct Mechanisms
Xilai Ding, Wei Yang, Xiaodong Shi, Peishuang Du, Lishan Su, Zhibai Qin, Jianzhu Chen, and Hongyu Deng
- 1192 CD8⁺ T Cells Primed in the Periphery Provide Time-Bound Immune-Surveillance to the Central Nervous System
Kevin G. Young, Susanne MacLean, Renu Dudani, Lakshmi Krishnan, and Subash Sad
- 1201 Novel Immunogenic Peptides Elicit Systemic Anaphylaxis in Mice: Implications for Peptide Vaccines
Claire Mary Smith, Peter Bradding, Daniel Robert Neill, Helen Baxendale, Franco Felici, and Peter William Andrew

- 1207 Thymic Stromal Lymphopoietin Is Produced by Dendritic Cells
Mohit Kashyap, Yrina Rochman, Rosanne Spolski, Leigh Samsel, and Warren J. Leonard
- 1212 Different NK Cell Developmental Events Require Different Levels of IL-15 *Trans*-Presentation
Gilbert Aaron Lee, Yae-Huei Liou, Szu-Wen Wang, Kai-Liang Ko, Si-Tse Jiang, and Nan-Shih Liao
- 1222 Cytosolic DNA-Activated Human Dendritic Cells Are Potent Activators of the Adaptive Immune Response
Katalin Kis-Toth, Attila Szanto, To-Ha Thai, and George C. Tsokos
- 1235 IL-15R α of Radiation-Resistant Cells Is Necessary and Sufficient for Thymic Invariant NKT Cell Survival and Functional Maturation
Chin-Ling Chang, Yein-Gei Lai, Mau-Sheng Hou, Po-Lin Huang, and Nan-Shih Liao
- 1243 CD28 Expressed on Malignant Plasma Cells Induces a Prosurvival and Immunosuppressive Microenvironment
Jayakumar R. Nair, Louise M. Carlson, Chandana Koorella, Cheryl H. Rozanski, Gerald E. Byrne, P. Leif Bergsagel, John P. Shaughnessy, Jr., Lawrence H. Boise, Asher Chanan-Khan, and Kelvin P. Lee
- 1254 GM-CSF Production by Glioblastoma Cells Has a Functional Role in Eosinophil Survival, Activation, and Growth Factor Production for Enhanced Tumor Cell Proliferation
Colleen S. Curran, Michael D. Evans, and Paul J. Bertics
- 1264 RGS10 Restricts Upregulation by Chemokines of T Cell Adhesion Mediated by $\alpha 4\beta 1$ and $\alpha L\beta 2$ Integrins
David García-Bernal, Ana Dios-Esponera, Elena Sotillo-Mallo, Rosa García-Verdugo, Nohemí Arellano-Sánchez, and Joaquin Teixidó
- 1273 Voltage-Gated Sodium Channel Nav1.7 Maintains the Membrane Potential and Regulates the Activation and Chemokine-Induced Migration of a Monocyte-Derived Dendritic Cell Subset
Katalin Kis-Toth, Peter Hajdu, Ildiko Bacskai, Orsolya Szilagyi, Ferenc Papp, Attila Szanto, Edit Posta, Peter Gogolak, Gyorgy Panyi, and Eva Rajnavolgyi
- 1281 Antigen Localization Controls T Cell-Mediated Tumor Immunity
Ingrid S. Zeelenberg, Wendy W. C. van Maren, Alexandre Boissonnas, Maaike A. Van Hout-Kuijer, Martijn H. M. G. M. Den Brok, Jori A. L. Wagenaars, Alie van der Schaaf, Eric J. R. Jansen, Sebastian Amigorena, Clotilde Théry, Carl G. Figdor, and Gosse J. Adema

MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 1289 Phospho-SXXE/D Motif Mediated TNF Receptor 1–TRADD Death Domain Complex Formation for T Cell Activation and Migration
Ying-jie Guan, Zhe Zhang, Chen Yu, Li Ma, Weiling Hu, Li Xu, Jin-Song Gao, Chun-Shiang Chung, Lijuan Wang, Zhong-Fa Yang, Loren D. Fast, Alicia S. Chung, Minsoo Kim, Alfred Ayala, Shougang Zhuang, Shusen Zheng, and Y. Eugene Chin

IMMUNOGENETICS

- 1298 Autoimmune Disease Risk Variant of IFIH1 Is Associated with Increased Sensitivity to IFN- α and Serologic Autoimmunity in Lupus Patients
Talin Robinson, Silvia N. Kariuki, Beverly S. Franek, Marissa Kumabe, Akaash A. Kumar, Maria Badaracco, Rachel A. Mikolaitis, Galen Guerrero, Tammy O. Utset, Barbara E. Drevlow, Laura S. Zaacks, James S. Grober, Lewis M. Cohen, Kyriakos A. Kirou, Mary K. Crow, Meenakshi Jolly, and Timothy B. Niewold
- 1304 The Inhibiting Fc Receptor for IgG, Fc γ RIIB, Is a Modifier of Autoimmune Susceptibility
Peter Boross, Victoria L. Arandhara, Javier Martin-Ramirez, Marie-Laure Santiago-Raber, Francesco Carlucci, Roelof Flierman, Jos van der Kaa, Cor Breukel, Jill W. C. Claassens, Marcel Camps, Erik Lubberts, Daniela Salvatori, Maria Pia Rastaldi, Ferry Ossendorp, Mohamed R. Daba, H. Terence Cook, Shozo Izui, Marina Botto, and J. Sijf Verbeek

HOST DEFENSE

- 1314 Activated Microglia Are Less Vulnerable to Hemin Toxicity due to Nitric Oxide-Dependent Inhibition of JNK and p38 MAPK Activation
Ying Cai, Geum-Sil Cho, Chung Ju, Si-Ling Wang, Jong Hoon Ryu, Chan Young Shin, Hee-Sun Kim, Kung-Woo Nam, Angela M. A. Anthony Jalin, Woong Sun, In-Young Choi, and Won-Ki Kim

- 1322 Uncoupling Protein 2 Negatively Regulates Mitochondrial Reactive Oxygen Species Generation and Induces Phosphatase-Mediated Anti-Inflammatory Response in Experimental Visceral Leishmaniasis
Writoban Basu Ball, Susanta Kar, Madhuchhanda Mukherjee, Ajit G. Chande, Robin Mukhopadhyaya, and Pijush K. Das
- 1333 The Interaction between IL-18 and IL-18 Receptor Limits the Magnitude of Protective Immunity and Enhances Pathogenic Responses following Infection with Intracellular Bacteria
Purnima Ghose, Asim Q. Ali, Rong Fang, Digna Forbes, Billy Ballard, and Nabel Ismail
- 1347 CD8⁺ T Effector Memory Cells Protect against Liver-Stage Malaria
Arturo Reyes-Sandoval, David H. Wyllie, Karolis Bauza, Anita Milicic, Emily K. Forbes, Christine S. Rollier, and Adrian V. S. Hill
- 1358 Importance of the CCR5–CCL5 Axis for Mucosal *Trypanosoma cruzi* Protection and B Cell Activation
Nicole L. Sullivan, Christopher S. Eickhoff, Xiuli Zhang, Olivia K. Giddings, Thomas E. Lane, and Daniel F. Hoft
- 1369 Human NK Cells Display Important Antifungal Activity against *Aspergillus fumigatus*, Which Is Directly Mediated by IFN- γ Release
Maria Bouzani, Michael Ok, Allison McCormick, Frank Ebel, Oliver Kurzai, C. Oliver Morton, Hermann Einsele, and Juergen Loeffler
- 1377 TpF1 from *Treponema pallidum* Activates Inflammasome and Promotes the Development of Regulatory T Cells
Chiara Babolin, Amedeo Amedei, Dzintars Ozoliņš, Aija Žileviča, Mario Milco D'Elis, and Marina de Bernard
- 1385 Comparing the Kinetics of NK Cells, CD4, and CD8 T Cells in Murine Cytomegalovirus Infection
Timothy E. Schlub, Joseph C. Sun, Senta M. Walton, Scott H. Robbins, Amelia K. Pinto, Michael W. Munks, Ann B. Hill, Laurent Brossay, Annette Oxenius, and Miles P. Davenport
- 1393 ML1419c Peptide Immunization Induces *Mycobacterium leprae*-Specific HLA-A*0201–Restricted CTL In Vivo with Potential To Kill Live Mycobacteria
Annemieke Geluk, Susan J. F. van den Eeden, Karin Dijkman, Louis Wilson, Hee Jin Kim, Kees L. M. C. Franken, John S. Spencer, Maria C. V. Pessolani, Geraldo M. B. Pereira, and Tom H. M. Ottenhoff
- 1403 Regulation of Chemerin Chemoattractant and Antibacterial Activity by Human Cysteine Cathepsins
Paulina Kulig, Tomasz Kantyka, Brian A. Zabel, Magdalena Banaś, Agnieszka Chyra, Anna Stefańska, Hua Tu, Samantha J. Allen, Tracy M. Handel, Andrzej Kozik, Jan Potempa, Eugene C. Butcher, and Joanna Cichy
- 1411 Th2 Responses to Helminth Parasites Can Be Therapeutically Enhanced by, but Are Not Dependent upon, GITR–GITR Ligand Costimulation In Vivo
Nienke van der Werf, Stephen A. Redpath, Alexander T. Phythian-Adams, Miyuki Azuma, Judith E. Allen, Rick M. Maizels, Andrew S. MacDonald, and Matthew D. Taylor
- 1421 A TCR Transgenic Mouse Reactive with Multiple Systemic Dimorphic Fungi
Marcel Wüthrich, Chiung Yu Hung, Ben H. Gern, John C. Pick-Jacobs, Kevin J. Galles, Hanna I. Filutowicz, Garry T. Cole, and Bruce S. Klein

INFLAMMATION

- 1432 Prostaglandin D₂ Regulates CD4⁺ Memory T Cell Trafficking across Blood Vascular Endothelium and Primes These Cells for Clearance across Lymphatic Endothelium
S. Rumel Ahmed, Helen M. McGettrick, Clara M. Yates, Christopher D. Buckley, Marianne J. Ratcliffe, Gerard B. Nash, and G. Ed Rainger
- 1440 Stromal Cell-Derived Factor-1 Signaling via the CXCR4–TCR Heterodimer Requires Phospholipase C- β 3 and Phospholipase C- γ 1 for Distinct Cellular Responses
Kimberly N. Kremer, Ian C. Clift, Alexander G. Miamen, Adebowale O. Bamidele, Nan-Xin Qian, Troy D. Humphreys, and Karen E. Hedin
- 1448 Macrophage-Specific Expression of Urokinase-Type Plasminogen Activator Promotes Skeletal Muscle Regeneration
Margaret L. Novak, Scott C. Bryer, Ming Cheng, Mai-Huong Nguyen, Kevin L. Conley, Andrew K. Cunningham, Bing Xue, Thomas H. Sisson, Jae-Sung You, Troy A. Hornberger, and Timothy J. Koh

- 1458 TLR2 Ligand Induces Protection against Cerebral Ischemia/Reperfusion Injury via Activation of Phosphoinositide 3-Kinase/Akt Signaling
Chen Lu, Li Liu, Yuling Chen, Tuanzhu Ha, Jim Kelley, John Schweitzer, John H. Kalbfleisch, Race L. Kao, David L. Williams, and Chuanfu Li
- 1467 P2X₇ Receptor-Dependent Intestinal Afferent Hypersensitivity in a Mouse Model of Postinfectious Irritable Bowel Syndrome
Christopher Keating, Pablo Pelegrin, Carlos M. Martínez, and David Grundy
- 1475 Processing of HEBP1 by Cathepsin D Gives Rise to F2L, the Agonist of Formyl Peptide Receptor 3
Thalie Devosse, Raphaël Dutoit, Isabelle Migeotte, Patricia De Nadai, Virginie Imbault, David Communi, Isabelle Salmon, and Marc Parmentier
- 1486 The Purinergic G Protein-Coupled Receptor 6 Inhibits Effector T Cell Activation in Allergic Pulmonary Inflammation
Giorgio Giannattasio, Shin Ohta, Joshua R. Boyce, Wei Xing, Barbara Balestrieri, and Joshua A. Boyce
- 1496 Overexpression of Ste20-Related Proline/Alanine-Rich Kinase Exacerbates Experimental Colitis in Mice
Yutao Yan, Hamed Laroui, Sarah A. Ingersoll, Saravanan Ayyadurai, Moiz Charania, Stephen Yang, Guillaume Dalmasso, Tracy S. Obertone, Hang Nguyen, Shanthi V. Sitaraman, and Didier Merlin

CLINICAL IMMUNOLOGY

- 1506 IFN- α Confers Resistance of Systemic Lupus Erythematosus Nephritis to Therapy in NZB/W F1 Mice
Zheng Liu, Ramalingam Bethunaickan, Weiqing Huang, Meera Ramanujam, Michael P. Madaio, and Anne Davidson

CORRECTIONS

- 1514 Correction: Actin-Bundling Protein L-Plastin Regulates T Cell Activation
Chen Wang, Sharon Celeste Morley, David Donermeyer, Ivan Peng, Wyne P. Lee, Jason Devoss, Dimitry M. Danilenko, Zhonghua Lin, Juan Zhang, Jie Zhou, Paul M. Allen, and Eric J. Brown
- 1515 Correction: Potential Role of Invariant NKT Cells in the Control of Pulmonary Inflammation and CD8+ T Cell Response during Acute Influenza A Virus H3N2 Pneumonia
Christophe Paget, Stoyan Ivanov, Josette Fontaine, Fany Blanc, Muriel Pichavant, Joelle Renneson, Emilie Bialecki, Julien Pothlichet, Catherine Vendeville, Giovanna Barba-Speath, Michel-René Huerre, Christelle Faveeuw, Mustapha Si-Tahar, and François Trottein
- 1516 Correction: Therapeutic Targeting of Syk in Autoimmune Diabetes
Lucrezia Colonna, Geoffrey Catalano, Claude Chew, Vivette D'Agati, James W. Thomas, F. Susan Wong, Jochen Schmitz, Esteban S. Masuda, Boris Reizis, Alexander Tarakhovskiy, and Raphael Clynes
- 1517 Correction: A Unique Role of the Cholera Toxin A1-DD Adjuvant for Long-Term Plasma and Memory B Cell Development
Mats Bemark, Peter Bergqvist, Anneli Stensson, Anna Holmberg, Johan Mattsson, and Nils Y. Lycke
- 1518 Correction: Gender-Associated Differences of Perforin Polymorphisms in the Susceptibility to Multiple Sclerosis
Montse Camiña-Tato, Carlos Morcillo-Suárez, Marta F. Bustamante, Israel Ortega, Arcadi Navarro, Aura Muntasell, Miguel López-Botet, Alex Sánchez, Paco Carmona, Eva Julià, María Teresa Tortola, Laura Audí, Jorge R. Oksenberg, Roland Martin, Xavier Montalban, and Manuel Comabella

- 1522 AUTHOR INDEX