

**Luminex**  
complexity simplified.



**Capabilities for Today.  
Flexibility for Tomorrow.**

Amnis<sup>®</sup> CellStream<sup>®</sup> Flow Cytometry Systems.

LEARN MORE >



**202 (10)**

*J Immunol* 2019; 202:2821-3112; ;  
<http://www.jimmunol.org/content/202/10>

This information is current as  
of June 16, 2019.

**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.



VOL. 202 | NO. 10 | May 15, 2019 | Pages 2821–3114

## IN THIS ISSUE

- 2821 **Effective Inhibition** *See article p. 2888*  
**IL-15's Cycling Chronical** *See article p. 2924*  
**Serotonin Gut Check** *See article p. 3041*  
**Bead-Based Assays for Mass Cytometry** *See article p. 3103*

## IMMUNOLOGY NOTES AND RESOURCES

- 2823 Report on the 2018 Cancer, Autoimmunity, and Immunology Conference  
*Colleen S. Curran, Connie L. Sommers, Howard A. Young, Katarzyna Bourcier, Marie Mancini, and Elad Sharon*

## BRIEF REVIEWS

- 2829 The Neuroimmune Axis in Skin Sensation, Inflammation, and Immunity  
*Anna M. Trier, Madison R. Mack, and Brian S. Kim*

## CUTTING EDGE

- 2837 Cutting Edge: Lymphomyeloid-Primed Progenitor Cell Fates Are Controlled by the Transcription Factor Tall  
*Renée F. de Pooter, Sheila Dias, Munmun Chowdhury, Elisabeth T. Bartom, Michael K. Okoreeb, Mikael Sigvardsson, and Barbara L. Kee*
- 2843 Cutting Edge: Polymicrobial Sepsis Has the Capacity to Reinvigorate Tumor-Infiltrating CD8<sup>+</sup> T Cells and Prolong Host Survival  
*Derek B. Danahy, Isaac J. Jensen, Thomas S. Griffith, and Vladimir P. Badovinac*

## ANTIGEN RECOGNITION AND RESPONSES

- 2849 Upstream Position of Proline Defines Peptide–HLA Class I Repertoire Formation and CD8<sup>+</sup> T Cell Responses  
*Ayumi Hongo, Takayuki Kanaseki, Serina Tokita, Vitaly Kochin, Sho Miyamoto, Yuiko Hashino, Amy Codd, Noriko Kawai, Munehide Nakatsugawa, Yoshihiko Hirohashi, Noriyuki Sato, and Toshihiko Torigoe*

On the cover: Selectivity of evobrutinib as determined in a KinaseProfiler screen. Results are shown in a kinome tree format. Red circles depict inhibition of a tested kinase, whereas black dots depict no inhibition. Haselmayer, P., M. Camps, L. Liu-Bujalski, N. Nguyen, F. Morandi, J. Head, A. O'Mahony, S. C. Zimmerli, L. Bruns, A. T. Bender, P. Schroeder, and R. Grenningloh. 2019. Efficacy and pharmacodynamic modeling of the BTK inhibitor evobrutinib in autoimmune disease models. *J. Immunol.* 202: 2888–2906.

*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: 301-246-8401. Subscription terms: New subscriptions and renewals begin January 1 and expire one year later (see <http://www.jimmunol.org/subscription> 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/Subscription/Claims>). 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 © 2019 by The American Association of Immunologists, Inc.

2856 The Activation State of CD4 T Cells Alters Cellular Peptidase Activities, HIV Antigen Processing, and MHC Class I Presentation in a Sequence-Dependent Manner  
*Julie Boucau, Julien Madouasse, Georgio Kourjian, Christopher S. Carlin, Daniel Wambua, Matthew J. Berberich, and Sylvie Le Gall*

2873 Trogocytosis-Mediated Intracellular Signaling in CD4<sup>+</sup> T Cells Drives T<sub>H</sub>2-Associated Effector Cytokine Production and Differentiation  
*Jim Reed and Scott A. Wetzel*

## AUTOIMMUNITY

2888 Efficacy and Pharmacodynamic Modeling of the BTK Inhibitor Evobrutinib in Autoimmune Disease Models  
*Philipp Haselmayer, Montserrat Camps, Lesley Liu-Bujalski, Ngan Nguyen, Federica Morandi, Jared Head, Alison O'Mahony, Simone C. Zimmerli, Lisa Bruns, Andrew T. Bender, Patricia Schroeder, and Roland Grenningloh*

2907 Nur77 Links Chronic Antigen Stimulation to B Cell Tolerance by Restricting the Survival of Self-Reactive B Cells in the Periphery  
*Corey Tan, James L. Mueller, Mark Noviski, John Huizar, Denise Lau, Alexandra Dubinin, Ari Molofsky, Patrick C. Wilson, and Julie Zikherman*

## CLINICAL AND HUMAN IMMUNOLOGY

2924 Mechanism for IL-15–Driven B Cell Chronic Lymphocytic Leukemia Cycling: Roles for AKT and STAT5 in Modulating Cyclin D2 and DNA Damage Response Proteins  
*Rashmi Gupta, Wentian Li, Xiao J. Yan, Jacqueline Barrientos, Jonathan E. Koltz, Steven L. Allen, Kanti Rai, Nicholas Chiorazzi, and Patricia K. A. Mongini*

2945 Immune Pharmacodynamic Responses of the Novel Cancer Immunotherapeutic Imprime PGG in Healthy Volunteers  
*Nandita Bose, Nadine R. Ottoson, Xiaohong Qiu, Ben Harrison, Jamie R. Lowe, Mark T. Uhlik, Blaine T. Rathmann, Takashi O. Kangas, Lindsay R. Jordan, Kathleen E. Ertelt, Adria Bykowski Jonas, Richard M. Walsh, Anissa S. H. Chan, Ross B. Fulton, Steven M. Leonardo, Kathryn A. Fraser, Keith B. Gorden, Mark A. Matson, Jeremy R. Graff, and Richard D. Huhn*

## IMMUNE REGULATION

2957 The Otubain YOD1 Suppresses Aggregation and Activation of the Signaling Adaptor MAVS through Lys63-Linked Deubiquitination  
*Chang Liu, Shan Huang, Xuelin Wang, Mingjie Wen, Jiarui Zheng, Wenjuan Wang, Yanbin Fu, Shunli Tian, Long Li, Zexing Li, and Xi Wang*

2971 Regulation of Phospholipase D by Arf6 during FcγR-Mediated Phagocytosis  
*Emeline Tanguy, An Phu Tran Nguyen, Nawal Kassas, Marie-France Bader, Nancy J. Grant, and Nicolas Vitale*

2982 Deletion of Biliverdin Reductase A in Myeloid Cells Promotes Chemokine Expression and Chemotaxis in Part via a Complement C5a–C5aR1 Pathway  
*Kavita Bisht, Giacomo Canesin, Tasneem Cheytan, Mailin Li, Zsuzsanna Nemeth, Eva Csizmadia, Trent M. Woodruff, David E. Stec, Andrew C. Bulmer, Leo E. Otterbein, and Barbara Wegiel*

2991 Bach2 Negatively Regulates T Follicular Helper Cell Differentiation and Is Critical for CD4<sup>+</sup> T Cell Memory  
*Jianlin Geng, Hairong Wei, Bi Shi, Yin-Hu Wang, Braxton D. Greer, Melanie Pittman, Emily Smith, Paul G. Thomas, Olaf Kutsch, and Hui Hu*

2999 Langerhans Cells Control Lymphatic Vessel Function during Inflammation via LIGHT-LTβR Signaling  
*Zhongnan Wang, Wenjun Wang, Qian Chai, and Mingzhao Zhu*

## IMMUNE SYSTEM DEVELOPMENT

- 3008 Malt1 Protease Is Critical in Maintaining Function of Regulatory T Cells and May Be a Therapeutic Target for Antitumor Immunity  
*Liqing Cheng, Nan Deng, Naixue Yang, Xueqiang Zhao, and Xin Lin*

## INNATE IMMUNITY AND INFLAMMATION

- 3020 Trauma Induces Emergency Hematopoiesis through IL-1/MyD88-Dependent Production of G-CSF  
*Anja Fuchs, Darlene A. Monlish, Sarbani Ghosh, Shin-Wen Chang, Grant V. Bochicchio, Laura G. Schuettpelz, and Isaiah R. Turnbull*
- 3033 GM-CSF- and IRF4-Dependent Signaling Can Regulate Myeloid Cell Numbers and the Macrophage Phenotype during Inflammation  
*Ming-Chin Lee, Derek C. Lacey, Andrew J. Fleetwood, Adrian Achuthan, John A. Hamilton, and Andrew D. Cook*

## MUCOSAL IMMUNOLOGY

- 3041 TLR2 Plays a Pivotal Role in Mediating Mucosal Serotonin Production in the Gut  
*Huaqing Wang, Yun Han Kwon, Varun Dewan, Fatemeh Vahedi, Saad Syed, Michelle E. Fontes, Ali A. Ashkar, Michael G. Surette, and Waliul I. Khan*

## TRANSPLANTATION

- 3053 ST2/MyD88 Deficiency Protects Mice against Acute Graft-versus-Host Disease and Spares Regulatory T Cells  
*Brad Griesenauer, Hua Jiang, Jinfeng Yang, Jilu Zhang, Abdulraouf M. Ramadan, Jane Egboziuba, Khaled Campa, and Sophie Paczesny*

## TUMOR IMMUNOLOGY

- 3065 FGFR2 Promotes Expression of PD-L1 in Colorectal Cancer via the JAK/STAT3 Signaling Pathway  
*Piao Li, Tingting Huang, Qi Zou, Dian Liu, Yihua Wang, Ximin Tan, Yao Wei, and Hong Qiu*
- 3076 Progesterone Receptor Attenuates STAT1-Mediated IFN Signaling in Breast Cancer  
*Merit L. Goodman, Gloria M. Trinca, Katherine R. Walter, Evangelia K. Papachristou, Clive S. D'Santos, Tianbao Li, Qi Liu, Zhao Lai, Prabhakar Chalise, Rashna Madan, Fang Fan, Mary A. Markiewicz, Victor X. Jin, Jason S. Carroll, and Christy R. Hagan*
- 3087 The Angiotensin Receptor Blocker Losartan Suppresses Growth of Pulmonary Metastases via AT1R-Independent Inhibition of CCR2 Signaling and Monocyte Recruitment  
*Daniel P. Regan, Jonathan W. Coy, Kirti Kandhwal Chahal, Lyndah Chow, Jade N. Kurihara, Amanda M. Guth, Irina Kufareva, and Steven W. Dow*

## NOVEL IMMUNOLOGICAL METHODS

- 3103 Osmium-Labeled Microspheres for Bead-Based Assays in Mass Cytometry  
*Lisa Budzinski, Axel R. Schulz, Sabine Baumgart, Tyler Burns, Thomas Rose, Heike Hirsland, and Henrik E. Mei*

- 3113 AUTHOR INDEX