

ON THE COVER

Rodero et al. use single molecule arrays combined with high-affinity autoantibodies from APECED patients to detect clinically relevant attomolar concentrations of interferon-alpha in different human diseases. This permits the first direct assay of interferon-alpha in patient samples since its initial discovery 60 years ago in the seminal study of Isaacs and Lindenmann. Scanning electron micrograph of a femtoliter-volume well array (gray/purple) containing beads capable of binding single molecules (shown here in green). See page 1547

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- 1205 MINK1: The missing link between ROS and its inhibition of Th17 cells
Gustavo J. Martinez

- 1207 Location in the spleen dictates the function of murine neutrophils
Patrizia Scapini and Marco A. Cassatella

Review

- 1211 Tissue adaptation: Implications for gut immunity and tolerance
Ana M.C. Faria, Bernardo S. Reis, and Daniel Mucida

Brief Definitive Reports

- 1227 AAV-mediated expression of anti-tau scFvs decreases tau accumulation in a mouse model of tauopathy
Christina Ising, Gilbert Gallardo, Cheryl E.G. Leyns, Connie H. Wong, Hong Jiang, Floy Stewart, Lauren J. Koscal, Joseph Roh, Grace O. Robinson, Javier Remolina Serrano, and David M. Holtzman

- 1239 In vivo evasion of MxA by avian influenza viruses requires human signature in the viral nucleoprotein
Christoph M. Deeg, Ebrahim Hassan, Pascal Mutz, Lara Rheinemann, Veronika Götz, Linda Magar, Mirjam Schilling, Carsten Kallfass, Cindy Nürnberger, Sébastien Soubies, Georg Kochs, Otto Haller, Martin Schwemmle, and Peter Staeheli

- 1249 Neutrophil myeloperoxidase diminishes the toxic effects and mortality induced by lipopolysaccharide
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- 1259 Differentiation of germinal center B cells into plasma cells is initiated by high-affinity antigen and completed by Tfh cells
Nike J. Kräutler, Dan Suan, Danyal Butt, Katherine Bourne, Jana R. Hermes, Tyani D. Chan, Christopher Sundling, Warren Kaplan, Peter Schofield, Jennifer Jackson, Antony Basten, Daniel Christ, and Robert Brink

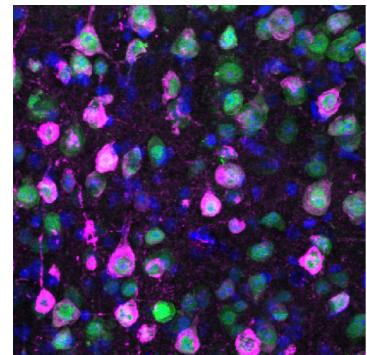
- 1269 TLR4 signals in B lymphocytes are transduced via the B cell antigen receptor and SYK
Edina Schweighoffer, Josquin Nys, Lesley Vanes, Nicholas Smithers, and Victor L.J. Tybulewicz

Articles

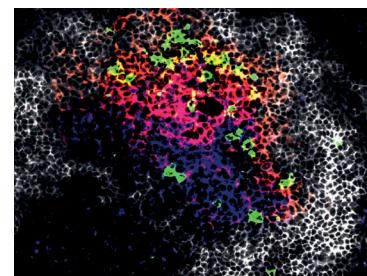
- 1281 Phagocytosis imprints heterogeneity in tissue-resident macrophages
Noelia A-Gonzalez, Juan A. Quintana, Susana García-Silva, Marina Mazariegos, Arturo González de la Aleja, José A. Nicolás-Ávila, Wencke Walter, Jose M. Adrover, Georgiana Crainiciuc, Vijay K. Kuchroo, Carla Rothlin, Hector Peinado, Antonio Castrillo, Mercedes Ricote, and Andrés Hidalgo

- 1297 TLR sensing of bacterial spore-associated RNA triggers host immune responses with detrimental effects
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- 1313 BATF2 inhibits immunopathological Th17 responses by suppressing *Il23a* expression during *Trypanosoma cruzi* infection**
Shoko Kitada, Hisako Kayama, Daisuke Okuzaki, Ritsuko Koga, Masao Kobayashi, Yasunobu Arima, Atsushi Kumanogoh, Masaaki Murakami, Masahito Ikawa, and Kiyoshi Takeda
- 1333 Splenic Ly6G^{high} mature and Ly6G^{int} immature neutrophils contribute to eradication of *S. pneumoniae***
Justin F. Deniset, Bas G. Surewaard, Woo-Yong Lee, and Paul Kubes
- 1351 NLR members NLRC4 and NLRP3 mediate sterile inflammasome activation in microglia and astrocytes**
Leslie Freeman, Haitao Guo, Clément N. David, W. June Brickey, Sushmita Jha, and Jenny P.-Y. Ting
- 1371 Enteropathy-associated T cell lymphoma subtypes are characterized by loss of function of SETD2**
Andrea B. Moffitt, Sarah L. Ondrejka, Matthew McKinney, Rachel E. Rempel, John R. Goodlad, Chun Huat Teh, Sirpa Leppa, Susanna Mannisto, Panu E. Kovanen, Eric Tse, Rex K.H. Au-Yeung, Yok-Lam Kwong, Gopesh Srivastava, Javeed Iqbal, Jiayu Yu, Kikkeri Naresh, Diego Villa, Randy D. Gascogne, Jonathan Said, Magdalena B. Czader, Amy Chadburn, Kristy L. Richards, Deepthi Rajagopalan, Nicholas S. Davis, Eileen C. Smith, Brooke C. Palus, Tiffany J. Tzeng, Jane A. Healy, Patricia L. Lugar, Jyotishka Datta, Cassandra Love, Shawn Levy, David B. Dunson, Yuan Zhuang, Eric D. Hsi, and Sandeep S. Dave
- 1387 Liver carcinogenesis by FOS-dependent inflammation and cholesterol dysregulation**
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- 1411 Optic nerve astrocyte reactivity protects function in experimental glaucoma and other nerve injuries**
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- 1431 Decreased cohesin in the brain leads to defective synapse development and anxiety-related behavior**
Yuki Fujita, Koji Masuda, Masashige Bando, Ryuichiro Nakato, Yuki Katou, Takashi Tanaka, Masahiro Nakayama, Keizo Takao, Tsuyoshi Miyakawa, Tatsunori Tanaka, Yukio Ago, Hitoshi Hashimoto, Katsuhiko Shirahige, and Toshihide Yamashita
- 1453 Suppression of Th17 cell differentiation by misshapen/NIK-related kinase MINK1**
Guotong Fu, Qin Xu, Yuanjun Qiu, Xuexiao Jin, Ting Xu, Shunli Dong, Jianli Wang, Yuehai Ke, Hu Hu, Xuetao Cao, Di Wang, Harvey Cantor, Xiang Gao, and Linrong Lu
- 1471 Epigenetic regulator CXXC5 recruits DNA demethylase Tet2 to regulate TLR7/9-elicited IFN response in pDCs**
Shixin Ma, Xiaoling Wan, Zihou Deng, Lei Shi, Congfang Hao, Zhenyuan Zhou, Chun Zhou, Yiyuan Fang, Jinghua Liu, Jing Yang, Xia Chen, Tiantian Li, Aiping Zang, Shigang Yin, Bin Li, Joel Plumas, Laurence Chaperot, Xiaoming Zhang, Guoliang Xu, Lubin Jiang, Nan Shen, Sidong Xiong, Xiaoming Gao, Yan Zhang, and Hui Xiao



Anti-tau scFvs decrease tau accumulation in vivo
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Plasma cell differentiation in the germinal center
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- 1493** The kinase TBK1 functions in dendritic cells to regulate T cell homeostasis, autoimmunity, and antitumor immunity

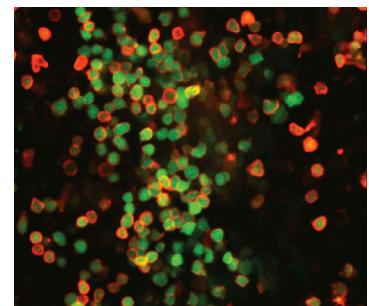
Yichuan Xiao, Qiang Zou, Xiaoping Xie, Ting Liu, Haiyan S. Li, Zuliang Jie, Jin Jin, Hongbo Hu, Ganiraju Manyam, Li Zhang, Xuhong Cheng, Hui Wang, Isabelle Marie, David E. Levy, Stephanie S. Watowich, and Shao-Cong Sun

- 1509** DC subset-specific induction of T cell responses upon antigen uptake via Fc γ receptors in vivo

Christian H.K. Lehmann, Anna Baranska, Gordon F. Heidkamp, Lukas Heger, Kirsten Neubert, Jennifer J. Lühr, Alana Hoffmann, Katharina C. Reimer, Christin Brückner, Simone Beck, Michaela Seeling, Melissa Kießling, Didier Soulat, Anne B. Krug, Jeffrey V. Ravetch, Jeanette H.W. Leusen, Falk Nimmerjahn, and Diana Dudziak

- 1529** TSLP-activated dendritic cells induce human T follicular helper cell differentiation through OX40-ligand

Lucia Pattarini, Coline Trichot, Sofia Bogiatzi, Maximilien Grandclaudon, Stephan Meller, Zela Keuylian, Melanie Durand, Elisabetta Volpe, Stefania Madonna, Andrea Cavani, Andrea Chiricozzi, Marco Romanelli, Toshiyuki Hori, Alain Hovnanian, Bernhard Homey, and Vassili Soumelis



Splenic neutrophils eradicate *S. pneumoniae*

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Technical Advances

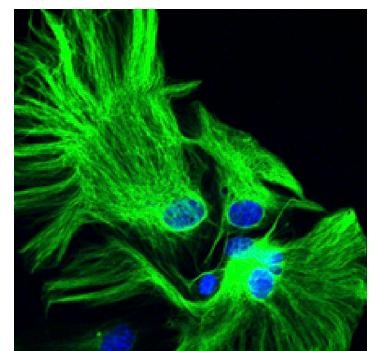
- 1547** Detection of interferon alpha protein reveals differential levels and cellular sources in disease

Mathieu P. Rodero, Jérémie Decalf, Vincent Bondet, David Hunt, Gillian I. Rice, Scott Werneke, Sarah L. McGlasson, Marie-Alexandra Alyanakian, Brigitte Bader-Meunier, Christine Barnerias, Nathalia Bellon, Alexandre Belot, Christine Bodemer, Tracy A. Briggs, Isabelle Desguerre, Marie-Louise Frémond, Marie Hully, Arn M.J.M. van den Maagdenberg, Isabelle Melki, Isabelle Meyts, Lucile Musset, Nadine Pelzer, Pierre Quartier, Gisela M. Terwindt, Joanna Wardlaw, Stewart Wiseman, Frédéric Rieux-Laucat, Yoann Rose, Bénédicte Neven, Christina Hertel, Adrian Hayday, Matthew L. Albert, Flore Rozenberg, Yanick J. Crow, and Darragh Duffy

Corrections

- 1557** Correction: In vivo NCL-targeting affects breast cancer aggressiveness through miRNA regulation

Flavia Pichiorri, Dario Palmieri, Luciana De Luca, Jessica Consiglio, Jia You, Alberto Rocci, Tiffany Talabere, Claudia Piovan, Alessandro Lagana, Luciano Cascione, Jingwen Guan, Pierluigi Gasparini, Veronica Balatti, Gerard Nuovo, Vincenzo Coppola, Craig C. Hofmeister, Guido Marcucci, John C. Byrd, Stefano Volinia, Charles L. Shapiro, Michael A. Freitas, and Carlo M. Croce



Inflammasome in glial cells in the cuprizone model

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- 1559** Correction: The soluble pattern recognition receptor PTX3 links humoral innate and adaptive immune responses by helping marginal zone B cells

Alejo Chorny, Sandra Casas-Recasens, Jordi Sintes, Meimei Shan, Nadia Polentarutti, Ramón García-Escudero, A. Cooper Walland, John R. Yeiser, Linda Cassis, Jorge Carrillo, Irene Puga, Cristina Cunha, Hélder Bastos, Fernando Rodrigues, João F. Lacerda, António Morais, Rebeca Dieguez-González, Peter S. Heeger, Giovanni Salvatori, Agostinho Carvalho, Adolfo Garcia-Sastre, J. Magarian Blander, Alberto Mantovani, Cecilia Garlanda, and Andrea Cerutti