

INSIGHTS

- e20210531 **CD1a autoreactivity: When size does matter**

Laurent Gapin

- e20210754 **Platelets instruct T reg cells and macrophages in the resolution of lung inflammation**

Rick Kapur and John W. Semple

- e20210572 **I SPI1 something needed for B cells**

Lara Wahlster and Vijay G. Sankaran

VIEWPOINT

- e20210454 **Sterilizing immunity: New opportunities for rational TB vaccine design**

Alan Sher and Joanne L. Flynn

REVIEWS

IMMUNE MEMORY FOCUS

- e20201541 **Inflammation as a regulator of hematopoietic stem cell function in disease, aging, and clonal selection**

Francisco Caiado, Eric M. Pietras, and Markus G. Manz

- e20201544 **Innate immune pathways and inflammation in hematopoietic aging, clonal hematopoiesis, and MDS**

Jennifer J. Trowbridge and Daniel T. Starczynowski

- e20201545 **Inflammatory signaling regulates hematopoietic stem and progenitor cell development and homeostasis**

Amélie Collins, Carl A. Mitchell, and Emmanuelle Passegue

- e20201546 **Analyzing signaling activity and function in hematopoietic cells**

Tobias Kull and Timm Schroeder

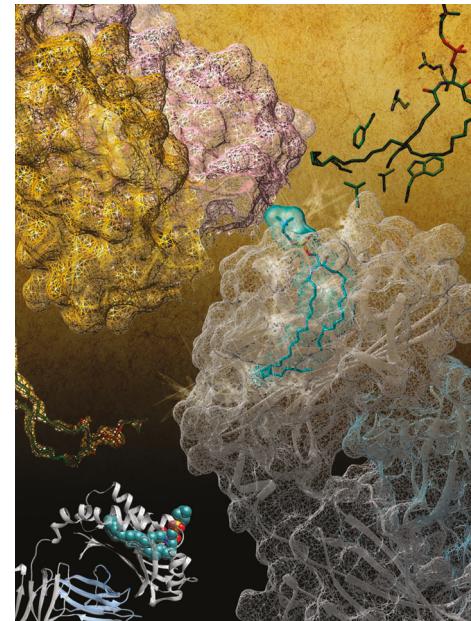
BRIEF DEFINITIVE REPORTS

- e20202484 **The atypical antipsychotic risperidone targets hypothalamic melanocortin 4 receptors to cause weight gain**

Li Li, Eun-Seon Yoo, Xiujuan Li, Steven C. Wyler, Xiameng Chen, Rong Wan, Amanda G. Arnold, Shari G. Birnbaum, Lin Jia, Jong-Woo Sohn, and Chen Liu

- e20191957 **Metabolic bifunctionality of Rv0812 couples folate and peptidoglycan biosynthesis in *Mycobacterium tuberculosis***

Katherine A. Black, Lijun Duan, Lungelo Mandyoli, Bruna P. Selbach, Weizhen Xu, Sabine Ehrt, James C. Sacchettini, and Kyu Y. Rhee



ON THE COVER

The antigen-presenting molecule CD1a (white) binds long chain sphingomyelin (blue), which protrudes to the CD1a surface and blocks the approach of T cell receptors (orange and pink). This original image was made by Dr. Erica Tandori, who is an artist in residence at Monash University. She has worked together with Marcin Wegrecki and Jamie Rossjohn to generate an image that captures the main message of the paper.

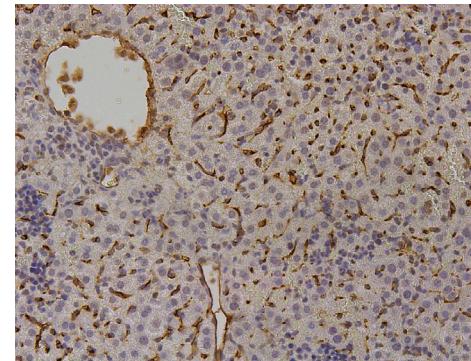
Image © Erica Tandori.

<https://doi.org/10.1084/jem.20202699>

e20210554

Preexisting autoantibodies to type I IFNs underlie critical COVID-19 pneumonia in patients with APS-1

Paul Bastard, Elizaveta Orlova, Leila Sozaeva, Romain Lévy, Alyssa James, Monica M. Schmitt, Sebastian Ochoa, Maria Kareva, Yulia Rodina, Adrian Gervais, Tom Le Voyer, Jérémie Rosain, Quentin Philippot, Anna-Lena Neehus, Elana Shaw, Mélanie Migaud, Lucy Bizien, Olov Ekwall, Stefan Berg, Guglielmo Beccuti, Lucia Ghizzoni, Gérard Thiriez, Arthur Pavot, Cécile Goujard, Marie-Louise Frémond, Edwin Carter, Anya Rothenbuhler, Agnès Linglart, Brigitte Mignot, Aurélie Comte, Nathalie Cheikh, Olivier Hermine, Lars Breivik, Eystein S. Husebye, Sébastien Humbert, Pierre Rohrlich, Alain Coaquette, Fanny Vuoto, Karine Faure, Nizar Mahlaoui, Primož Kotnik, Tadej Battelino, Katarina Trebušák Podkrajšek, Kai Kisand, Elise M.N. Ferré, Thomas DiMaggio, Lindsey B. Rosen, Peter D. Burbelo, Martin McIntyre, Nelli Y. Kann, Anna Shcherbina, Maria Pavlova, Anna Kolodkina, Steven M. Holland, Shen-Ying Zhang, Yanick J. Crow, Luigi D. Notarangelo, Helen C. Su, Laurent Abel, Mark S. Anderson, Emmanuelle Jouanguy, Bénédicte Neven, Anne Puel, Jean-Laurent Casanova, and Michail S. Lionakis



GIMAP5 deficiency causes portal hypertension

Image © Drzewiecki et al., 2021.
<https://doi.org/10.1084/jem.20201745>

e20201745

GIMAP5 maintains liver endothelial cell homeostasis and prevents portal hypertension

Kaela Drzewiecki, Jungmin Choi, Joseph Brancale, Michael A. Leney-Greene, Sinan Sari, Buket Dalgiç, Aysel Ünlüsoy Aksu, Gülsen Evrigen Şahin, Ahmet Ozen, Safa Baris, Elif Karakoc-Aydiner, Dhanpat Jain, David Kleiner, Michael Schmalz, Kadakkal Radhakrishnan, Junhui Zhang, Kasper Hoebe, Helen C. Su, João P. Pereira, Michael J. Lenardo, Richard P. Lifton, and Sílvia Vilarinho

TECHNICAL ADVANCES AND RESOURCES

e20201908

A participant-derived xenograft model of HIV enables long-term evaluation of autologous immunotherapies

Chase D. McCann, Christiaan H. van Dorp, Ali Danesh, Adam R. Ward, Thomas R. Dilling, Talia M. Mota, Elizabeth Zale, Eva M. Stevenson, Shabnum Patel, Chanson J. Brumme, Winnie Dong, Douglas S. Jones, Thomas L. Andrensen, Bruce D. Walker, Zabrina L. Brumme, Catherine M. Bollard, Alan S. Perelson, Darrell J. Irvine, and R. Brad Jones

ARTICLES

e20202699

CD1a selectively captures endogenous cellular lipids that broadly block T cell response

Rachel N. Cotton, Marcin Wegrecki, Tan-Yun Cheng, Yi-Ling Chen, Natacha Veerapen, Jérôme Le Nours, Dennis P. Orgill, Bohdan Pomahac, Simon G. Talbot, Richard Willis, John D. Altman, Annemieke de Jong, Ildiko Van Rhijn, Rachael A. Clark, Gurdyal S. Besra, Graham Ogg, Jamie Rossjohn, and D. Branch Moody

e20201353

Platelets orchestrate the resolution of pulmonary inflammation in mice by T reg cell repositioning and macrophage education

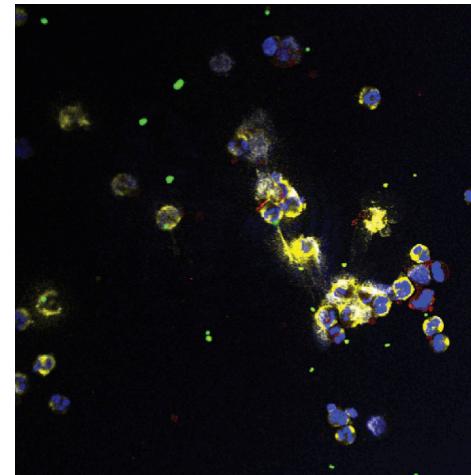
Jan Rossaint, Katharina Thomas, Sina Mersmann, Jennifer Skupski, Andreas Margraf, Tobias Tekath, Charlotte C. Jouvene, Jesmond Dalli, Andres Hidalgo, Sven G. Meuth, Oliver Soehnlein, and Alexander Zarbock

e20201750

Constrained chromatin accessibility in PU.1-mutated agammaglobulinemia patients

Carole Le Coz, David N. Nguyen, Chun Su, Brian E. Nolan, Amanda V. Albrecht, Suela Xhani, Di Sun, Benjamin Demaree, Piyush Pillarisetti, Caroline Khanna, Francis Wright, Peixin Amy Chen, Samuel Yoon, Amy L. Stiegler, Kelly Maurer, James P. Garifallou, Amy Rymaszewski, Steven H. Kroft, Timothy S. Olson, Alix E. Seif, Gerald Wertheim, Struan F.A. Grant, Linda T. Vo, Jennifer M. Puck, Kathleen E. Sullivan, John M. Routes, Viktoria Zakharova, Anna Shcherbina, Anna Mukhina, Natasha L. Rudy, Anna C.E. Hurst, T. Prescott Atkinson, Titus J. Boggon, Hakon Hakonarson, Adam R. Abate, Joud Hajjar, Sarah K. Nicholas, James R. Lupski, James Verbsky, Ivan K. Chinn, Michael V. Gonzalez, Andrew D. Wells, Alex Marson, Gregory M.K. Poon, and Neil Romberg

- e20201793 **A positive feedback loop reinforces the allergic immune response in human peanut allergy**
 Xiaoying Zhou, Wong Yu, Shu-Chen Lyu, Claudia Macaubas, Bryan Bunning, Ziyuan He, Elizabeth D. Mellins, and Kari C. Nadeau
- e20202144 **BFAR coordinates TGF β signaling to modulate Th9-mediated cancer immunotherapy**
 Siyu Pei, Mingzhu Huang, Jia Huang, Xiaodong Zhu, Hui Wang, Simona Romano, Xiuyu Deng, Yan Wang, Yixiao Luo, Shumeng Hao, Jing Xu, Tao Yu, Qingchen Zhu, Jia Yuan, Kunwei Shen, Zhiqiang Liu, Guohong Hu, Chao Peng, Qingquan Luo, Zhenzhen Wen, Dongfang Dai, and Yichuan Xiao
- e20202733 **DNMT3A haploinsufficiency causes dichotomous DNA methylation defects at enhancers in mature human immune cells**
 Jung-Yeon Lim, Sascha H. Duttke, Turner S. Baker, Jihye Lee, Kristyne J. Gambino, Nicholas J. Venturini, Jessica Sook Yuin Ho, Simin Zheng, Yesai S. Fstkchyan, Vinodh Pillai, David C. Fajgenbaum, Ivan Marazzi, Christopher Benner, and Minji Byun
- e20202756 **Immunogenicity and efficacy of one and two doses of Ad26.COV2.S COVID vaccine in adult and aged NHP**
 Laura Solforosi, Harmjan Kuipers, Mandy Jongeneelen, Sietske K. Rosendahl Huber, Joan E.M. van der Lubbe, Liesbeth Dekking, Dominika N. Czapska-Casey, Ana Izquierdo Gil, Miranda R.M. Baert, Joke Drijver, Joost Vaneman, Ella van Huizen, Ying Choi, Jessica Vreugdenhil, Sanne Kroos, Adriaan H. de Wilde, Eleni Kourkouta, Jerome Custers, Remko van der Vlugt, Daniel Veldman, Jeroen Huizingh, Krisztian Kaszas, Tim J. Dalebout, Sebenzile K. Myeni, Marjolein Kikkert, Eric J. Snijder, Dan H. Barouch, Kinga P. Böszörnényi, Marieke A. Stammes, Ivana Kondova, Ernst J. Verschoor, Babs E. Verstrepen, Gerrit Koopman, Petra Mooij, Willy M.J.M. Bogers, Marjolein van Heerden, Leacky Muchene, Jeroen T.B.M. Tolboom, Ramon Rozendaal, Boerries Brandenburg, Hanneke Schuitemaker, Frank Wegmann, and Roland C. Zahn
- e20201763 **Uncovering a novel role of PLC β 4 in selectively mediating TCR signaling in CD8 $^{+}$ but not CD4 $^{+}$ T cells**
 Miwa Sasai, Ji Su Ma, Masaaki Okamoto, Kohei Nishino, Hikaru Nagaoka, Eizo Takashima, Ariel Pradipta, Youngae Lee, Hidetaka Kosako, Pann-Ghill Suh, and Masahiro Yamamoto
- e20201811 **LILRB4 suppresses immunity in solid tumors and is a potential target for immunotherapy**
 Naveen Sharma, Oluwatomisin T. Atolagbe, Zhongqi Ge, and James P. Allison
- e20202477 **Cbl-b deficiency prevents functional but not phenotypic T cell anergy**
 Trang T.T. Nguyen, Zhi-En Wang, Lin Shen, Andrew Schroeder, Walter Eckalbar, and Arthur Weiss
- e20202059 **Normalization of cholesterol metabolism in spinal microglia alleviates neuropathic pain**
 Juliana M. Navia-Pelaez, Soo-Ho Choi, Luciano dos Santos Aggum Capettini, Yining Xia, Ayelet Gonen, Colin Agatisa-Boyle, Lauriane Delay, Gilson Gonçalves dos Santos, Glaucilene F. Catroli, Jungsu Kim, Jenny W. Lu, Benjamin Saylor, Holger Winkels, Christopher P. Durant, Yanal Ghosheh, Graham Beaton, Klaus Ley, Irina Kufareva, Maripat Corr, Tony L. Yaksh, and Yury I. Miller
- e20201413 **Upregulation of VCAM-1 in lymphatic collectors supports dendritic cell entry and rapid migration to lymph nodes in inflammation**
 Jorge Arasa, Victor Collado-Diaz, Ioannis Kritikos, Jessica Danielly Medina-Sanchez, Mona Carina Friess, Elena Caroline Sigmund, Philipp Schineis, Morgan Campbell Hunter, Carlotta Tacconi, Neil Paterson, Takashi Nagasawa, Friedemann Kiefer, Taija Makinen, Michael Detmar, Markus Moser, Tim Lämmermann, and Cornelia Halin



Pathogenic antibody against ERV in SLE

Image © Tokuyama et al., 2021.
<https://doi.org/10.1084/jem.20191766>

e20210223

Aged hematopoietic stem cells are refractory to bloodborne systemic rejuvenation interventions

Theodore T. Ho, Paul V. Dellorusso, Evgenia V. Verovskaya, Sietske T. Bakker, Johanna Flach, Lucas K. Smith, Patrick B. Ventura, Olivia M. Lansinger, Aurélie Hérault, Si Yi Zhang, Yoon-A Kang, Carl A. Mitchell, Saul A. Villeda, and Emmanuelle Passegue

e20191766

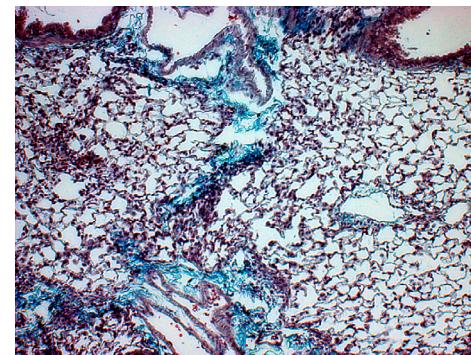
Antibodies against human endogenous retrovirus K102 envelope activate neutrophils in systemic lupus erythematosus

Maria Tokuyama, Bronwyn M. Gunn, Arvind Venkataraman, Yong Kong, Insoo Kang, Tasnia Rakib, Michael J. Townsend, Karen H. Costenbader, Galit Alter, and Akiko Iwasaki

e20201354

The molecular and epigenetic mechanisms of innate lymphoid cell (ILC) memory and its relevance for asthma

Mukesh Verma, Lidia Michalec, Anand Sripada, Jerome McKay, Kapil Sirohi, Divya Verma, Dipa Sheth, Richard Martin, Nathan Djack, Max A. Seibold, Jennifer R. Knapp, Ting-Hui Tu, Brian P. O'Connor, Magdalena M. Gorska, and Rafeul Alam



Platelets in inflammation resolution

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<https://doi.org/10.1084/jem.20201353>