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HIF controls exhaustion
S1P₁ in neuroinflammation
LincRNAs in T cells

nature immunology

CORRESPONDENCE

1101 No antigen-presentation defect in *Unc93b1*^{3d/3d} (3d) mice

COMMENTARY

1104 HIV-AIDS: much accomplished, much to do

Anthony S Fauci, Gregory K Folkers & Carl W Dieffenbach


NEWS AND VIEWS

1108 ADAPted secretion of cytokines in NK cells

Eric Vivier, Sophie Ugolini & Jacques A Nunès  see also p 1127

1110 Polarized effector programs for innate-like thymocytes

Benjamin D McDonald, Michael G Constantinides & Albert Bendelac

 see also p 1146

1112 You break it, you fix it: functions for AID downstream of deamination

Rebecca K Delker & F Nina Papavasiliou  see also p 1183

1114 Bypassing T cell 'exhaustion'

Joachim R Göthert  see also p 1173

1117 RESEARCH HIGHLIGHTS

REVIEW


1118 Effect of helminth-induced immunity on infections with microbial pathogens

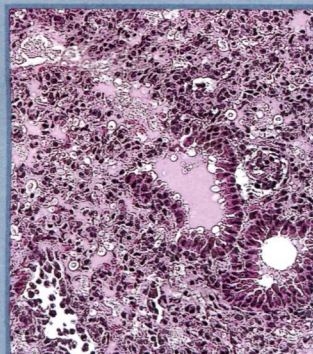
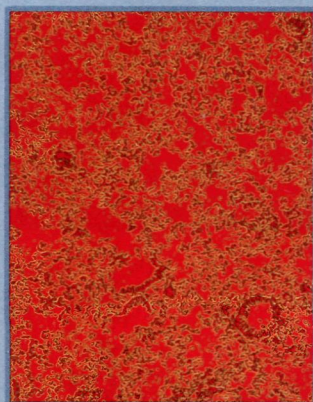
Padmini Salgame, George S Yap & William C Gause

ARTICLES

1127 Signaling by Fyn-ADAP via the Carma1-Bcl-10-MAP3K7 signalosome exclusively regulates inflammatory cytokine production in NK cells

Kamalakaran Rajasekaran, Pawan Kumar, Kristina M Schuldt, Erik J Peterson, Bart Vanhaesebroeck, Vishva Dixit, Monica S Thakar & Subramaniam Malarkannan

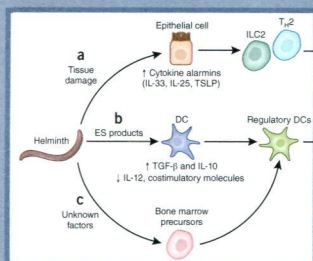
 see also p 1108



Chronic infection with lymphocytic choriomeningitis virus (LCMV) results in moderate immunopathology in wild-type mice. Goldrath and colleagues show that immune responses are progressively attenuated by T cell exhaustion dependent on the HIF pathway (p 1173; News and Views by Göthert, p 1114). Original image by

Andrew L. Doedens and

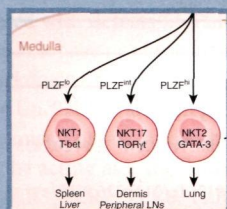
Martin H. Stradner is a hematoxylin- and eosin-stained section of mouse lung infected by LCMV in the presence of LCMV-specific T cells with activated HIF. Artwork by Lewis Long.



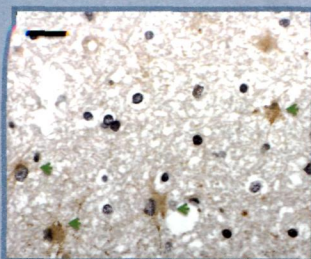
Effect of helminth coinfection (p 1118)



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 $\gamma\delta$ TCR recognition (p 1137)

NKT cell polarization (pp 1110 and 1146)

S1P₁ in neuroinflammation (p 1166)**1137 CD1d-lipid antigen recognition by the $\gamma\delta$ TCR**

Adam P Uldrich, Jérôme Le Nours, Daniel G Pellicci, Nicholas A Gherardin, Kirsty G McPherson, Ricky T Lim, Onisha Patel, Travis Beddoe, Stephanie Gras, Jamie Rossjohn & Dale I Godfrey

1146 Steady-state production of IL-4 modulates immunity in mouse strains and is determined by lineage diversity of α NKT cells

You Jeong Lee, Keli L Holzapfel, Jinfang Zhu, Stephen C Jameson & Kristin A Hogquist  *see also p 1110*

1155 The transcription factor IRF4 is essential for TCR affinity-mediated metabolic programming and clonal expansion of T cells

Kevin Man, Maria Miasari, Wei Shi, Annie Xin, Darren C Henstridge, Simon Preston, Marc Pellegrini, Gabrielle T Belz, Gordon K Smyth, Mark A Febbraio, Stephen L Nutt & Axel Kallies

1166 Defective sphingosine 1-phosphate receptor 1 (S1P₁) phosphorylation exacerbates T_H17-mediated autoimmune neuroinflammation

Christopher S Garris, Linfeng Wu, Swati Acharya, Ahmet Arac, Victoria A Blaho, Yingxiang Huang, Byoung San Moon, Robert C Axtell, Peggy P Ho, Gary K Steinberg, David B Lewis, Raymond A Sobel, David K Han, Lawrence Steinman, Michael P Snyder, Timothy Hla & May H Han

1173 Hypoxia-inducible factors enhance the effector responses of CD8⁺ T cells to persistent antigen

Andrew L Doedens, Anthony T Phan, Martin H Stradner, Jessica K Fujimoto, Jessica V Nguyen, Edward Yang, Randall S Johnson & Ananda W Goldrath  *see also p 1114*

1183 A DNA break- and phosphorylation-dependent positive feedback loop promotes immunoglobulin class-switch recombination

Bao Q Vuong, Kayleigh Herrick-Reynolds, Bharat Vaidyanathan, Joseph N Pucella, Anna J Ucher, Nina M Donghia, Xiwen Gu, Laura Nicolas, Urszula Nowak, Numa Rahman, Matthew P Strout, Kevin D Mills, Janet Stavnezer & Jayanta Chaudhuri  *see also p 1112*

RESOURCE

1190 Expression and regulation of intergenic long noncoding RNAs during T cell development and differentiation

Gangqing Hu, Qingsong Tang, Suveena Sharma, Fang Yu, Thelma M Escobar, Stefan A Muljo, Jinfang Zhu & Keji Zhao

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See back pages.