

## IN THIS ISSUE

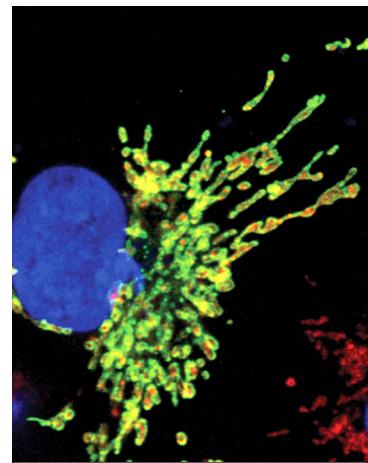
- 2010 Precursor loss triggers AIDS  
A MyD88 meddles with survival  
T-bet terminates self-renewal  
Following the trail from COX-2 to clotting  
T cell education dictates function  
Hema Bashyam

## FROM THE ARCHIVE

- 2013 Uncovering the dark side of TNF  
Hema Bashyam

## BRIEF DEFINITIVE REPORTS

- 2015 Requirement for T-bet in the aberrant differentiation of unhelped memory CD8<sup>+</sup> T cells  
Andrew M. Intlekofer, Naofumi Takemoto, Charlly Kao, Arnob Banerjee, Felix Schambach, John K. Northrop, Hao Shen, E. John Wherry, and Steven L. Reiner  
*See news item on page 2011*
- 2023 An antigen-specific pathway for CD8 T cells across the blood-brain barrier  
Ian Galea, Martine Bernardes-Silva, Penny A. Forse, Nico van Rooijen, Roland S. Liblau, and V. Hugh Perry
- 2031 Impaired T lymphocyte trafficking in mice deficient in an actin-nucleating protein, mDia1  
Daiji Sakata, Hiroyuki Taniguchi, Shingo Yasuda, Aki Adachi-Morishima, Yoko Hamazaki, Rika Nakayama, Takashi Miki, Nagahiro Minato, and Shuh Narumiya
- 2039 TCR-based lineage tracing: no evidence for conversion of conventional into regulatory T cells in response to a natural self-antigen in pancreatic islets  
Jamie Wong, Diane Mathis, and Christophe Benoist
- 2047 Mutations of the Igβ gene cause agammaglobulinemia in man  
Simona Ferrari, Vassilios Lougaris, Stefano Caraffi, Roberta Zuntini, Jianying Yang, Annarosa Soresina, Antonella Meini, Giantonio Cazzola, Cesare Rossi, Michael Reth, and Alessandro Plebani
- 2053 COX-2 suppresses tissue factor expression via endocannabinoid-directed PPARδ activation  
Mallika Ghosh, Haibin Wang, Youxi Ai, Elisa Romeo, James P. Luyendyk, Jeffrey M. Peters, Nigel Mackman, Sudhansu K. Dey, and Timothy Hla  
*See news item on page 2011*



## ON THE COVER

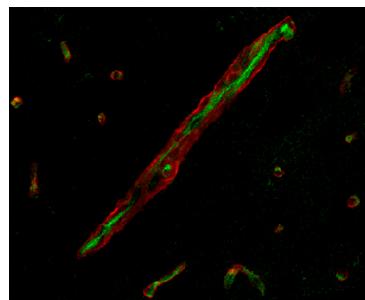
Image shows that the adaptor protein MyD88-5 (green) is clustered around mitochondria (red) near the nucleus (blue) in a neuron. By also binding to microtubules, MyD88-5 might direct mitochondrial traffic. Related article by Kim et al.  
*See page 2063*

## ARTICLES

- 2063 MyD88-5 links mitochondria, microtubules, and JNK3 in neurons and regulates neuronal survival

Younghwa Kim, Ping Zhou, Liping Qian, Jen-Zen Chuang, Jessica Lee, Chenjian Li, Costantino Iadecola, Carl Nathan, and Aihao Ding

[See news item on page 2010](#)



Antigen-presenting endothelial cells (green) that line blood vessels (red) allow T cells to enter the brain.  
[See page 2023](#)

- 2075 Memory CD8<sup>+</sup> T cells mediate antibacterial immunity via CCL3 activation of TNF/ROI<sup>+</sup> phagocytes

Emilie Narni-Mancinelli, Laura Campisi, Delphine Bassand, Julie Cazareth, Pierre Gounon, Nicolas Glaichenhaus, and Grégoire Lauvau

- 2089 Nitrite augments tolerance to ischemia/reperfusion injury via the modulation of mitochondrial electron transfer

Sruti Shiva, Michael N. Sack, James J. Greer, Mark Duranski, Lorna A. Ringwood, Lindsay Burwell, Xunde Wang, Peter H. MacArthur, Amir Shoja, Nalini Raghavachari, John W. Calvert, Paul S. Brookes, David J. Lefer, and Mark T. Gladwin

- 2103 New markers for murine memory B cells that define mutated and unmutated subsets

Shannon M. Anderson, Mary M. Tomayko, Anupama Ahuja, Ann M. Haberman, and Mark J. Shlomchik

- 2115 Presenilins regulate  $\alpha\beta$  T cell development by modulating TCR signaling

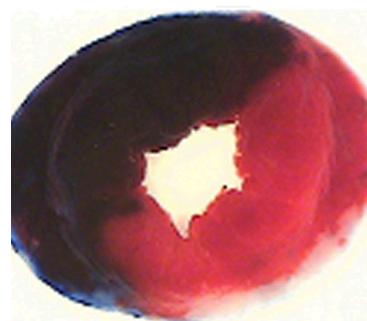
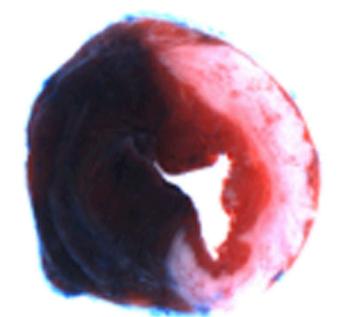
Karen Laky and B.J. Fowlkes

- 2131 Blood leukocyte microarrays to diagnose systemic onset juvenile idiopathic arthritis and follow the response to IL-1 blockade

Florence Allantaz, Damien Chaussabel, Dorothee Stichweh, Lynda Bennett, Windy Allman, Asuncion Mejias, Monica Ardura, Wendy Chung, Carol Wise, Karolina Palucka, Octavio Ramilo, Marilynn Punaro, Jacques Banchereau, and Virginia Pascual

- 2145 Thymic selection pathway regulates the effector function of CD4 T cells

Wei Li, M. Hanief Sofi, Norman Yeh, Sarita Sehra, Brian P. McCarthy, Dipak R. Patel, Randy R. Brutkiewicz, Mark H. Kaplan, and Cheong-Hee Chang  
[See news item on page 2011](#)

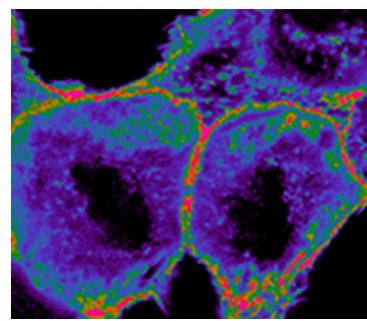
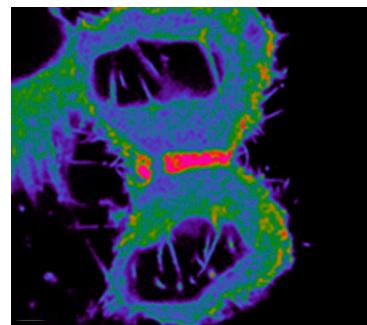


Tissue damage (white, top) caused by restored blood supply after a heart attack can be minimized by pre-injection with nitrites (bottom).  
[See page 2089](#)

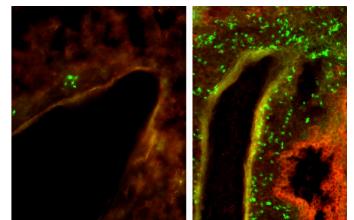
- 2159 Expansion and function of Foxp3-expressing T regulatory cells during tuberculosis

James P. Scott-Browne, Shahin Shafiani, Gladys Tucker-Heard, Kumiko Ishida-Tsubota, Jason D. Fontenot, Alexander Y. Rudensky, Michael J. Bevan, and Kevin B. Urdahl

- 2171** Progressive CD4<sup>+</sup> central–memory T cell decline results in CD4<sup>+</sup> effector–memory insufficiency and overt disease in chronic SIV infection  
Afam Okoye, Martin Meier-Schellersheim, Jason M. Brenchley, Shoko I. Hagen, Joshua M. Walker, Mukta Rohankhedkar, Richard Lum, John B. Edgar, Shannon L. Planer, Alfred Legasse, Andrew W. Sylwester, Michael Piatak Jr., Jeffrey D. Lifson, Vernon C. Maino, Donald L. Sodora, Daniel C. Douek, Michael K. Axthelm, Zvi Grossman, and Louis J. Picker  
[See news item on page 2010](#)
- 2187** Cross-competition of CD8<sup>+</sup> T cells shapes the immunodominance hierarchy during boost vaccination  
Wolfgang Kastenmuller, Georg Gasteiger, Julian H. Gronau, Robert Baier, Ronny Ljapoci, Dirk H. Busch, and Ingo Drexler
- 2199** Rapid default transition of CD4 T cell effectors to functional memory cells  
K. Kai McKinstry, Susanne Golech, Won-Ha Lee, Gail Huston, Nan-Ping Weng, and Susan L. Swain
- 2213** Unregulated actin polymerization by WASp causes defects of mitosis and cytokinesis in X-linked neutropenia  
Dale A. Moulding, Michael P. Blundell, David G. Spiller, Michael R.H. White, Giles O. Cory, Yolanda Calle, Helena Kempski, Jo Sinclair, Phil J. Ancliff, Christine Kinnon, Gareth E. Jones, and Adrian J. Thrasher
- 2225** A role for AID in chromosome translocations between c-myc and the IgH variable region  
Yair Dorsett, Davide F. Robbiani, Mila Jankovic, Bernardo Reina-San-Martin, Thomas R. Eisenreich, and Michel C. Nussenzweig
- 2233** Enhanced TLR-mediated NF-IL6–dependent gene expression by Trib1 deficiency  
Masahiro Yamamoto, Satoshi Uematsu, Toru Okamoto, Yoshiharu Matsuura, Shintaro Sato, Himanshu Kumar, Takashi Satoh, Tatsuya Saitoh, Kiyoshi Takeda, Ken J. Ishii, Osamu Takeuchi, Taro Kawai, and Shizuo Akira



Mutated Wiskott–Aldrich syndrome protein (top) slows cell division by causing a build-up of actin (red) between dividing cells.  
[See page 2213](#)



Regulatory T cells (green) accumulate in the lung (red) of mice infected with *Mycobacterium tuberculosis* (right).  
[See page 2159](#)