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# nature immunology



**Size-tailored neutrophil responses**  
**MALT1-dependent T<sub>H</sub>17 differentiation**  
**TCR function in T<sub>reg</sub> cells**



# nature immunology

## COMMENTARY

### 997 Street smarts of science for students

Michael M Chen, Anita Zahs, Sulie L Chang & Elizabeth J Kovacs

## NEWS AND VIEWS

### 1000 Time to cast a larger net

Matthew L Wheeler & David M Underhill  see also p 1017

### 1002 TCR signaling fuels T<sub>reg</sub> cell suppressor function

Jinfang Zhu & Ethan M Shevach  see also p 1070

### 1004 Skin DCs cluster for efficient T cell activation

Scott N Mueller  see also p 1064

### 1005 Fate PPAR-titoning: PPAR- $\gamma$ 'instructs' alveolar macrophage development

Florent Ginhoux  see also p 1026

## 1008 RESEARCH HIGHLIGHTS


## REVIEW

### 1009 Plasticity of mesenchymal stem cells in immunomodulation: pathological and therapeutic implications

Ying Wang, Xiaodong Chen, Wei Cao & Yufang Shi

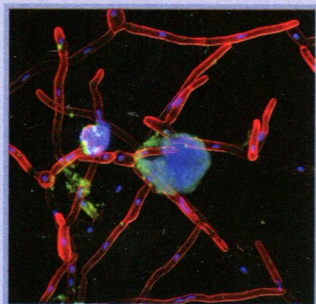
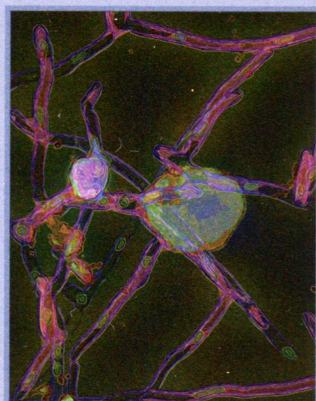
## ARTICLES

### 1017 Neutrophils sense microbe size and selectively release neutrophil extracellular traps in response to large pathogens

Nora Branzk, Aleksandra Lubojemska, Sarah E Hardison, Qian Wang, Maximiliano G Gutierrez, Gordon D Brown & Venizelos Papayannopoulos  
 see also p 1000

### 1026 Induction of the nuclear receptor PPAR- $\gamma$ by the cytokine GM-CSF is critical for the differentiation of fetal monocytes into alveolar macrophages

Christoph Schneider, Samuel P Nobs, Michael Kurrer, Hubert Rehrauer, Christoph Thiele & Manfred Kopf  see also p 1005



Cells of the immune system tailor their responses to microbe size.

Branzk *et al.* demonstrate that neutrophils sense microbe size and selectively release neutrophil extracellular traps to control large pathogens (p 1017; News and Views by Mathew L. Wheeler and David M. Underhill, p 1000). The original image shows neutrophils responding to large fungal filaments (red) by releasing such traps that contain the antimicrobial protein myeloperoxidase (green) and decondensed DNA (blue).  
Image by Nora Branzk and Venizelos Papayannopoulos.

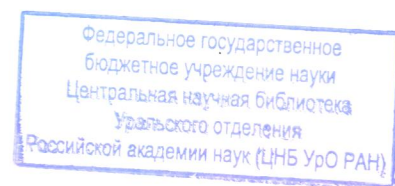
Artwork by Lewis Long.



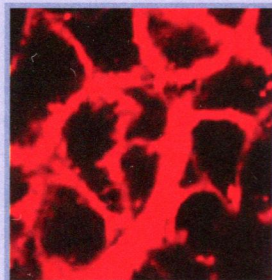
Young scientists (p 997)



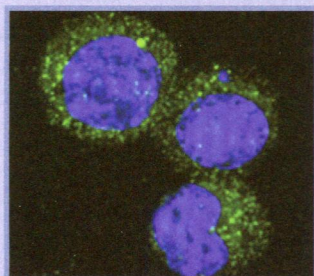
nature publishing group







Dermal leukocyte clustering  
(pp 1004 and 1064)



Regulating activation (p 1046)



TRPV1 in CD4<sup>+</sup> T cells (p 1055)

- 1038 N-glycosylation bidirectionally extends the boundaries of thymocyte positive selection by decoupling Lck from Ca<sup>2+</sup> signaling**  
Raymond W Zhou, Haik Mkhikian, Ani Grigorian, Amanda Hong, David Chen, Araz Arakelyan & Michael Demetriou
- 1046 Chaperone-mediated autophagy regulates T cell responses through targeted degradation of negative regulators of T cell activation**  
Rut Valdor, Enric Mocholi, Yair Botbol, Ignacio Guerrero-Ros, Dinesh Chandra, Hiroshi Koga, Claudia Gravekamp, Ana Maria Cuervo & Fernando Macian
- 1055 The ion channel TRPV1 regulates the activation and proinflammatory properties of CD4<sup>+</sup> T cells**  
Samuel Bertin, Yukari Aoki-Nonaka, Petrus Rudolf de Jong, Lilian L Nohara, Hongjian Xu, Shawna R Stanwood, Sonal Srikanth, Jihyung Lee, Keith To, Lior Abramson, Timothy Yu, Tiffany Han, Ranim Touma, Xiangli Li, José M González-Navajas, Scott Herdman, Maripat Corr, Guo Fu, Hui Dong, Yousang Gwack, Alessandra Franco, Wilfred A Jefferies & Eyal Raz
- 1064 Perivascular leukocyte clusters are essential for efficient activation of effector T cells in the skin**  
Yohei Natsuaki, Gyohei Egawa, Satoshi Nakamizo, Sachiko Ono, Sho Hanakawa, Takaharu Okada, Nobuhiro Kusuba, Atsushi Otsuka, Akihiko Kitoh, Tetsuya Honda, Saeko Nakajima, Soken Tsuchiya, Yukihiro Sugimoto, Ken J Ishii, Hiroko Tsutsui, Hideo Yagita, Yoichiro Iwakura, Masato Kubo, Lai guan Ng, Takashi Hashimoto, Judilyn Fuentes, Emma Guttman-Yassky, Yoshiki Miyachi & Kenji Kabashima  
📖 *see also p 1004*
- 1070 Continuous requirement for the TCR in regulatory T cell function**  
Andrew G Levine, Aaron Arvey, Wei Jin & Alexander Y Rudensky 📖 *see also p 1002*
- 1079 Cleavage of roquin and regnase-1 by the paracaspase MALT1 releases their cooperatively repressed targets to promote T<sub>H</sub>17 differentiation**  
Katharina M Jeltsch, Desheng Hu, Sven Brenner, Jessica Zöller, Gitta A Heinz, Daniel Nagel, Katharina U Vogel, Nina Rehage, Sebastian C Warth, Stephanie L Edelmann, Renee Gloury, Nina Martin, Claudia Lohs, Maciej Lech, Jenny E Stehlein, Arie Geerlof, Elisabeth Kremmer, Achim Weber, Hans-Joachim Anders, Ingo Schmitz, Marc Schmidt-Supprian, Mingui Fu, Helmut Holtmann, Daniel Krappmann, Jürgen Ruland, Axel Kallies, Mathias Heikenwalder & Vigo Heissmeyer
- 1090 CORRIGENDA**

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## NATURE IMMUNOLOGY CLASSIFIED

See back pages.