

114
N 28/c

nature

VOLUME 15 NUMBER 9 SEPTEMBER 2014
www.nature.com/natureimmunology

immunology



FOCUS ON
TCR signaling

nature immunology

Focus on: TCR SIGNALING

EDITORIAL

789 A primer on TCR signaling

PERSPECTIVE

790 Integrative biology of T cell activation

Bernard Malissen, Claude Grégoire, Marie Malissen & Romain Roncagalli

REVIEWS

798 Insights into the initiation of TCR signaling

Arup K Chakraborty & Arthur Weiss

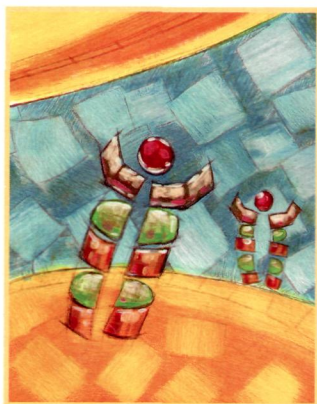
808 Serine-threonine kinases in TCR signaling

María N Navarro & Doreen A Cantrell

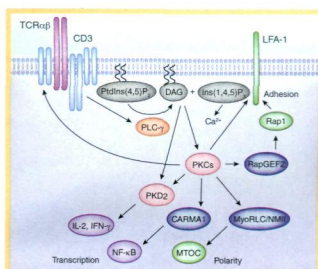
815 The self-obsession of T cells: how TCR signaling thresholds affect fate 'decisions' and effector function

Kristin A Hogquist & Stephen C Jameson

824 RESEARCH HIGHLIGHTS



This month's Focus features a series of three specially commissioned Reviews and a Perspective that provide an in-depth analysis of signaling via the T cell antigen receptor and its regulation, as well as the functional consequences of the T cell antigen receptor's recognition of peptides presented on major histocompatibility complex molecules. See <http://www.nature.com/ni/focus/TCRsignaling/index.html> Artwork by Lewis Long depicts a TCR.



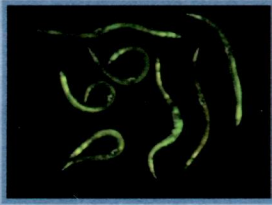
Coordinating T cell metabolism (p 808)

Федеральное государственное
образовательное учреждение науки
Центральная научная библиотека
Уральского отделения
Российской академии наук
(ЦНБ УрО РАН)

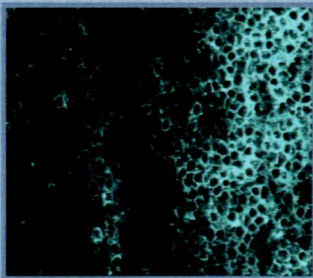


nature publishing group

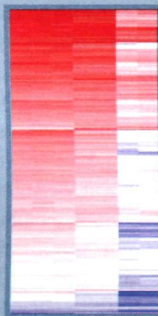
Nature Immunology (ISSN 1529-2908) published monthly by Nature America Inc. trading as Nature Publishing Group, 75 Varick Street, Fl 9, New York, NY 10013-1917, USA. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form (electronic or otherwise) without prior permission from permissions@nature.com. US Periodicals postage paid at New York, NY and additional mailing post offices. **US POSTMASTER:** Send address changes to Nature America, Inc. Subscriptions Department, 75 Varick Street, 9th Floor, New York, NY 10013-1917, USA. © 2014 Nature America, Inc. All rights reserved. Printed in USA.



Nematode danger signaling
(pp 826 and 833)



T_H cell differentiation in humans
(p 856)



Sustaining T cell activation
(pp 828 and 884)

OBITUARY

- 825 François Kourilsky**
Bernard Malissen

NEWS AND VIEWS

- 826 Breaking barriers: a GPCR triggers immunity in nematodes**
Robert J Luallen & Emily R Troemel see also p 833
- 828 c-Myc and AP4: a relay team for metabolic reprogramming of CD8⁺ T cells**
Peer W F Karmaus & Hongbo Chi see also p 884
- 830 RNA exosomes keep endogenous RNA under the radar**
Yaming Wang & Marco Colonna see also p 839

832 RESEARCH HIGHLIGHTS

ARTICLES

- 833 Activation of a G protein-coupled receptor by its endogenous ligand triggers the innate immune response of *Caenorhabditis elegans***
Olivier Zugasti, Neelanjan Bose, Barbara Squiban, Jérôme Belougne, C Léopold Kurz, Frank C Schroeder, Nathalie Pujol & Jonathan J Ewbank see also p 826
- 839 The SKIV2L RNA exosome limits activation of the RIG-I-like receptors**
Sterling C Eckard, Gillian I Rice, Alexandre Fabre, Catherine Badens, Elizabeth E Gray, Jane L Hartley, Yanick J Crow & Daniel B Stetson see also p 830
- 846 Cell-intrinsic lysosomal lipolysis is essential for alternative activation of macrophages**
Stanley Ching-Cheng Huang, Bart Everts, Yulia Ivanova, David O'Sullivan, Marcia Nascimento, Amber M Smith, Wandy Beatty, Latisha Love-Gregory, Wing Y Lam, Christina M O'Neill, Cong Yan, Hong Du, Nada A Abumrad, Joseph F Urban Jr, Maxim N Artyomov, Erika L Pearce & Edward J Pearce
- 856 The cytokine TGF- β co-opts signaling via STAT3-STAT4 to promote the differentiation of human T_H cells**
Nathalie Schmitt, Yang Liu, Salah-Eddine Bentebibel, Indira Munagala, Laure Bourdery, K Venuprasad, Jacques Banchereau & Hideki Ueno
- 866 The adaptor TRAF3 restrains the lineage determination of thymic regulatory T cells by modulating signaling via the receptor for IL-2**
Zuoan Yi, Wai Wai Lin, Laura L Stunz & Gail A Bishop
- 875 The tyrosine phosphatase PTPN22 discriminates weak self peptides from strong agonist TCR signals**
Robert J Salmond, Rebecca J Brownlie, Vicky L Morrison & Rose Zamoyka
- 884 c-Myc-induced transcription factor AP4 is required for host protection mediated by CD8⁺ T cells**
Chun Chou, Amelia K Pinto, Jonathan D Curtis, Stephen P Persaud, Marina Cella, Chih-Chung Lin, Brian T Edelson, Paul M Allen, Marco Colonna, Erika L Pearce, Michael S Diamond & Takeshi Egawa see also p 828
- 894 RETRACTION AND CORRIGENDA**

NATURE IMMUNOLOGY CLASSIFIED

See back pages.