



nature publishing group



► **COVER:** 'Spreading your wings' by Simon Bradbrook, inspired by the Review on p581.



ELAINE BELL



LUCY BIRD



KIRSTY MINTON



OLIVE LEAVY



SARAH ALLAN

The mammalian immune system has evolved to protect the body from invading parasites, bacteria and viruses. As increased knowledge about host–pathogen interactions undoubtedly holds clues for improving the treatment of infection, the investigation of how the immune system interfaces with pathogens is of paramount interest to immunologists. In this issue, the underlying mechanisms of antiviral immunity are explored from several angles: on page 594, Yong-Jun Liu and colleagues discuss the key role of plasmacytoid dendritic cells in immunity against viruses and on page 619, Philip Goulder and David Watkins review the influence of host MHC molecules on HIV infection. Recent advances in the sophistication of molecular techniques have permitted immunologists to examine the blueprints that underlie host–pathogen interactions more closely than ever before. On page 644, Michael Katze and colleagues describe new insights into the pathogenesis of RNA viruses that have been made possible by the use of functional genomics.

The power of genomic approaches is also rapidly advancing our understanding of other aspects of immunology. On page 631, Ramnik Xavier and John Rioux discuss how genome-wide association studies have allowed researchers to make leaps and bounds in the discovery of factors that contribute to autoimmune diseases, helping to shed new light on questions that have puzzled immunologists for decades.

Central to all types of immune response is the processing and presentation of antigens by innate immune cells. On page 607, Hidde Ploegh and colleagues provide an overview of the numerous complex pathways of subcellular antigen trafficking. A broader understanding of these concepts provides a platform on which increased knowledge about pathogen defence, autoimmune processes and other types of immune response can be explored.

EDITORIAL OFFICES

LONDON NatureReviews@nature.com
The Macmillan Building, 4 Crinan Street,
London N1 9XW, UK

Tel: +44 (0)20 7843 3620;
Fax: +44 (0)20 7843 3629

CHIEF EDITOR: Elaine Bell
ACTING CHIEF EDITOR: Lucy Bird
SENIOR EDITORS: Kirsty Minton, Olive Leavy
ASSOCIATE EDITOR: Sarah Allan
COPY EDITORS: Marta Tufet, Rachel David
ART EDITOR: Simon Bradbrook

EDITORIAL SUPPORT MANAGER:
Elinor Faulkner

ART CONTROLLER: Susanne Harris
SENIOR ART EDITORS: Vicky Askew,
Patrick Morgan

MANAGING PRODUCTION EDITOR:
Judith Shadwell

DEPUTY PRODUCTION EDITOR:
Simon Fenwick

PRODUCTION CONTROLLER: Natalie Smith

EDITORIAL ASSISTANTS: Laura Firman,
Jacques Smit

WEB PRODUCTION MANAGER:

Deborah Anthony
MARKETING MANAGERS: Tim Redding,
Leah Rodriguez

MANAGEMENT OFFICES

LONDON nature@nature.com
The Macmillan Building,
4 Crinan Street,
London N1 9XW, UK

Tel: +44 (0)20 7833 4000;
Fax: +44 (0)20 7843 4596/7

OFFICE MANAGER: Sheryl Ocampo
ASSOCIATE PUBLISHER: Magdalena Skipper
MANAGING DIRECTOR: Steven Inchcombe
EDITOR-IN-CHIEF, NATURE PUBLICATIONS:
Philip Campbell

ASSOCIATE DIRECTORS:
Jenny Henderson, Tony Rudland

EDITORIAL PRODUCTION DIRECTOR:
James McQuat

PRODUCTION DIRECTOR: Yvonne Strong
DIRECTOR, WEB PUBLISHING: Timo Hannay

HEAD OF WEB PRODUCTION:

Alexander Thurrell
NATUREJOBS PUBLISHER: Della Sar

NEW YORK nature@natureny.com
Nature Publishing Group,
75 Varick Street, 9th floor, New York,
NY 10013-1917, USA
Tel: +1 212 726 9200;
Fax: +1 212 696 9006

CHIEF TECHNOLOGY OFFICER: Howard Ratner
HEAD OF INTERNAL SYSTEMS DEVELOPMENT:
Anthony Barrera

HEAD OF SOFTWARE SERVICES:
Luigi Squillante

**HEAD OF GLOBAL ADVERTISING, SALES AND
SPONSORSHIP:** Dean Sanderson

**HEAD OF NATURE RESEARCH & REVIEWS
MARKETING:** Sara Girard

BUSINESS DEVELOPMENT EXECUTIVE:
David Bagshaw

TOKYO nature@natureasia.com
Chiyoda Building 5F, 2-37-1 Ichigayatamachi,
Shinjuku-ku, Tokyo 162-0843, Japan
Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

ASIA-PACIFIC PUBLISHER: Antoine E Bocquet
MANAGER: Koichi Nakamura

ASIA-PACIFIC SALES DIRECTOR:
Kate Yoneyama

SENIOR MARKETING MANAGER: Peter Yoshihara
MARKETING/PRODUCTION MANAGER:
Takesh Murakami

INDIA 5A/12 Ansari Road, Daryaganj,
New Delhi 110 002, India
Tel/Fax: +91 11 2324 4186

SALES AND MARKETING MANAGER, INDIA:
Harpal Singh Gill

Copyright © 2008 Macmillan Publishers Limited.
All rights reserved.

Research Highlight images courtesy of
Getty Images unless otherwise credited.

Printed in Wales by Cambrian Printers
on acid-free paper