



nature publishing group



To survive in a host, a pathogen must avoid detection by the host immune system or stay one step ahead of it. One way that HIV avoids detection and clearance is by establishing a latent reservoir in resting memory CD4⁺ T cells. Several aspects of the mechanisms of reactivation from latency are understood, but less is known about the mechanisms by which the virus remains latent. On page 798, José Alcamí and colleagues describe the cellular and viral factors that HIV uses to establish and maintain the latent reservoir.

Many viruses and bacteria that do not have a latent phase subvert key host cell processes using effectors that mimic the structure or function of host proteins. In order to survive, the host needs to overcome the effects of these mimics, setting up a race between the pathogen and the host. This molecular mimicry and its implications for the evolution of the host and the pathogen are described by Malik and Elde on page 787.

Humans aren't the only travellers on this planet; many pathogens also travel long distances, usually aided by humans. Keim and Wagner, on page 813, describe the ecological and evolutionary forces at work and the role of humans in the spread of bacteria across the globe, using the examples of *Bacillus anthracis*, *Francisella tularensis* and *Yersinia pestis*. The clonal nature of these organisms allows their dissemination and spread to be traced over a long period.

In order to grow, bacteria need to coordinate the replication of DNA and cell division with the availability of nutrients. On page 822, Wang and Levin describe the intricate sensing mechanisms in bacteria that ensure that cell division takes place only when the cell is large enough, the chromosome has been replicated and the conditions are favourable.



CHRISTIAAN VAN OOIJ



SHEILAGH MOLLOY



ANDREW JERMY



RACHEL DAVID

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: Christiaan van Ooij
SENIOR EDITOR: Sheilagh Molloy
ASSOCIATE EDITOR: Andrew Jermy
ASSISTANT EDITOR: Rachel David
COPY EDITOR: Lucie Wootton
SENIOR COPY EDITORS: Craig Nicholson,
Man Tsuey Tse
ART EDITOR: George Marshall
ART CONTROLLER: Susanne Harris
SENIOR ART EDITORS: Vicky Summersby,
Patrick Morgan
MANAGING PRODUCTION EDITOR:
Judith Shadwell
SENIOR PRODUCTION EDITOR:
Simon Fenwick
PRODUCTION CONTROLLER:
Natalie Smith

EDITORIAL ASSISTANTS: Jacques Smit,
Laura Corns
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: Laura Firman
PUBLISHER: Stephanie Diment
MANAGING DIRECTOR: Steven Inchcoombe
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 © 2009 Nature Publishing Group
Research Highlight images courtesy of
Getty Images unless otherwise credited.
Printed in Wales by Cambrian Printers
on acid-free paper