

nature REVIEWS

NATURE REVIEWS MOLECULAR CELL BIOLOGY

EDITORIAL OFFICES

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

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

CHIEF EDITOR: Arianne Heinrichs

SENIOR EDITORS: Katrin Bussell, Rachel Smallridge

ASSOCIATE EDITORS: Lesley Cunliffe, Ekaterina Kritikou

ASSISTANT EDITORS: Shannon Amoils, Sharon Ahmad

COPY EDITOR: Helen Ross

ART CONTROLLER: Nicola Hawes

EDITORIAL SUPPORT MANAGER: Emma Green

SENIOR ART EDITORS: Susanne Harris, Claudia Bentley

MANAGING PRODUCTION EDITOR: Judith Shadwell

DEPUTY PRODUCTION EDITOR: Simon Fenwick

OFFICE MANAGER: Luisa Estanislao

EDITORIAL ASSISTANTS: Sam Arr-Jones, Elliann Fairbairn

WORLD WIDE WEB: <http://www.nature.com/reviews>

ASSOCIATE DIRECTOR, WEB PUBLISHING: Timo Hannay

GLOBAL ELECTRONIC PRODUCTION MANAGER: Jeremy Macdonald

ELECTRONIC PRODUCTION MANAGER, UK: Amanda Ward

ELECTRONIC PRODUCTION COORDINATORS: Catherine Alexander,
Angela Bird, Puja Kamdar, Alexander Thurrell, Amy Wagner

MANAGEMENT OFFICES

LONDON nature@nature.com The Macmillan Building, 4 Crinan Street,
London N1 9XW Tel: +44 (0)20 7833 4000; Fax: +44 (0)20 7843 4596/7

MANAGING DIRECTOR: Annette Thomas

PUBLISHER: Hugh Blackbourn

ASSOCIATE DIRECTORS: Jenny Henderson, Tony Rudland

EDITOR-IN-CHIEF, NATURE PUBLICATIONS: Philip Campbell

GLOBAL HEAD OF ADVERTISING SALES: Fabien Savenay

MARKETING MANAGERS: Anna Duguid, Kellie Lane

EDITORIAL PRODUCTION MANAGER: James McQuat

PRODUCTION MANAGER: Yvonne Strong

PRODUCTION CONTROLLER: Natalie Smith

NEW YORK nature@natureny.com 345 Park Avenue South, 10th Floor,
New York, NY 10010-1707 Tel: +1 212 726 9200; Fax: +1 212 696 9006

CHIEF TECHNOLOGY OFFICER: Howard Ratner

NEW TECHNOLOGY OFFICER: Greg Suprock

HEAD OF WEB SERVICES: Anthony Barrera

US HEAD OF DISPLAY ADVERTISING: Stephen Schwartz

NATUREJOBS PUBLISHER: Ben Crowe

HEAD OF NATURE RESEARCH & REVIEWS MARKETING: Sara Girard

TOKYO nature@naturejpn.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: Takeshi Murakami

INDIA 5A/12 Ansari Road, Daryaganj, New Delhi 110 002, India

Tel/Fax: +91 11 324 4186

SALES AND MARKETING MANAGER, INDIA: Harpal Singh Gill

Display advertising

display@natureny.com (USA) or display@nature.com (UK/ROW)

GLOBAL HEAD OF DISPLAY ADVERTISING: John Michael

Tel: +44 (0) 20 7843 4960; Fax: +44 (0) 20 7843 4749

US HEAD OF DISPLAY ADVERTISING: Stephen Schwartz

Tel: +1 212 726 9256; Fax: +1 212 696 9481

EUROPEAN HEAD OF DISPLAY ADVERTISING: Gerard Preston

Tel: +44 (0) 20 7843 4965; Fax: +44 (0) 20 7843 4749

BUSINESS DEVELOPMENT MANAGER: Claire Hines

Tel: +44 (0) 20 7843 4971; Fax: +44 (0) 20 7843 4749

SALES EXECUTIVES

NEW ENGLAND: Sheila Reardon

Tel: +1 617 399 4098; Fax: +1 617 426 3717

NEW YORK, MID-ATLANTIC, SOUTH EAST: Jim Breault

Tel: +1 212 726 9334; Fax: +1 212 726 9481

NORTHWEST: Mathieu Desjardins

Tel: +1 415 781 6422; Fax: +1 415 781 3805

MIDWEST: Mike Rossi Tel: +1 212 726 9255; Fax: +1 212 696 9481

WESTERN REGION: George Lui

Tel: +1 415 781 3804; Fax: +1 415 781 3805

EASTERN ENGLAND/SCOTLAND, ITALY, SPAIN, ISRAEL:

Matthew Wilkinson Tel: +44 (0) 20 7843 4959; Fax: +44 (0) 20 7843 4749

NORTHERN GERMANY: Gerard Preston

Tel: +44 (0) 20 7843 4960; Fax: +44 (0) 20 7843 4749

SOUTH/WEST UK, SCANDINAVIA, THE NETHERLANDS:

Marianne Boulakas Tel: +44 (0) 20 7843 4969;

Fax: +44 (0) 20 7843 4749

SOUTHERN GERMANY, SWITZERLAND, AUSTRIA, FRANCE, BELGIUM:

Sabine Hugl-Fürst Tel: +41 52761 3386; Fax: +41 52761 3419

JAPAN: nature@naturejpn.com

Rinoko Asami, Nature Japan KK

Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

Original design by Jane Walker

Copyright © 2005 Nature Publishing Group

Printed in Wales by Cambrian Printers on acid-free paper

The temporal and spatial control of stem-cell divisions is tightly regulated to ensure proper development of the organism. This month sees two new instalments in our Article Series on Developmental Cell Biology (<http://www.nature.com/nrm/series/devcellbiol>) that shed light on the signalling cascades that regulate stem-cell proliferation and differentiation in worms and mammals.

On page 766, Edward T. Kipreos discusses the different cell-cycle control mechanisms that result in a defined number of somatic cells in the adult worm and allow continuous germ line proliferation throughout its life. Magdalena Götz and Wieland B. Huttner (page 777) dissect the proliferation and differentiation mechanisms of stem cells during the development of the central nervous system in mammals. Mechanisms that control apical–basal polarity and cell-cycle length are thought to be responsible for cell-fate changes and neurogenesis.

A research area that has progressed in leaps and bounds of late is the study of chromatin modifications at sites of DNA damage. Chromatin modifications are key regulators of transcription, but their role in DNA repair has become apparent only recently. On page 757, Haico van Attikum and Susan M. Gasser discuss how the phosphorylation of histone H2A promotes the accumulation of checkpoint and repair proteins to DNA double-strand breaks. Other chromatin modifications have also been implicated, but how they impact on the cellular response to DNA damage remains to be clarified.

Finally, as you might have gathered from the cover, *Nature Reviews Molecular Cell Biology* celebrates its fifth anniversary this month. We would like to thank all authors and referees, who, together with our readers, have made the past 5 years a resounding success.



Arianne Heinrichs



Katrin Bussell



Rachel Smallridge



Lesley Cunliffe



Ekaterina Kritikou