



nature publishing group



► **COVER:** "Looking for mummy?" by Lara Crow, inspired by the Perspective on p728 that discusses the evidence of cancer in ancient societies.



NICOLA MCCARTHY



GEMMA ALDERTON



SARAH SETON-ROGERS



TERESA VILLANUEVA



MEERA SWAMI

**A**lterations in chromatin dynamics are relevant to cancer initiation and progression. On page 669, Alea A. Mills discusses the polycomb and trithorax protein complexes that repress or promote gene expression, respectively. The balance between these complexes is skewed in cancer cells, partly through the inappropriate methylation of histones. On page 721, Ali Shalitifard and colleagues present their current model of how the mammalian trithorax homologue, mixed lineage leukaemia (MLL), subverts gene expression in acute myeloid and acute lymphoid leukaemias. The insights gained from this model might allow the development of targeted agents in the treatment of these leukaemias.

The development of successful targeted drugs requires a precise knowledge of the mechanism of action of the protein or gene target. Pancreatic cancer is one of many cancers for which targeted drugs are desperately needed, and on page 683 John P. Morris, Sam C. Wang and Matthias Hebrok discuss the function of KRAS in the development of pancreatic ductal adenocarcinoma (PDAC). Mouse models that precisely recapture the human disease have been difficult to develop, although recent, more accurate models have indicated that a complex interplay between KRAS mutation and the subversion of the Wnt and Hedgehog signalling pathways is required in the initiation and progression of PDAC. Identifying additional genes and signalling pathways mutated in this and other cancers would also be of use for drug development; on page 696 Nancy A. Jenkins and Neal G. Copeland discuss the use of transposons, such as Sleeping Beauty, in mutating and identifying genes that cooperate in the generation of specific cancers.

All four of these articles highlight the different ways research is progressing to identify new and effective treatments for specific cancers.

#### 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:** Nicola McCarthy  
**SENIOR EDITORS:** Gemma Alderton,  
Sarah Seton-Rogers  
**ASSOCIATE EDITOR:** Teresa Villanueva  
**ASSISTANT EDITOR:** Meera Swami  
**COPY EDITOR:** Catriona Rodwell  
**SENIOR COPY EDITOR:** Man Tsuey Tse  
**COPY EDITING MANAGER:** Lewis Packwood  
**ART EDITOR:** Lara Crow  
**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,  
Dominic Pettit  
**EDITORIAL PRODUCTION DIRECTOR:**  
James McQuat

#### PRODUCTION DIRECTOR:

Yvonne Strong  
**DIRECTOR, WEB PUBLISHING:**  
Dan Pollock

**HEAD OF WEB PRODUCTION:**  
Alexander Thurrell

**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

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

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

**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** SA/12 Ansari Road, Daryaganj,  
New Delhi 110 002, India  
Tel/Fax: +91 11 2324 4186  
**SALES AND MARKETING MANAGER, INDIA:**  
Harpal Singh Gill

Copyright © 2010 Nature Publishing Group  
Research Highlight images courtesy of  
Getty Images unless otherwise credited.  
Printed in Wales by Cambrian Printers  
on acid-free paper