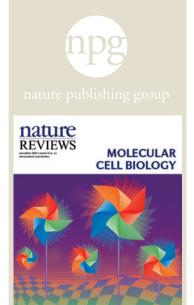
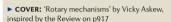
FROM THE FDITORS











The study of normal cellular and disease physiology is inextricably linked. Disease-causing mutants can provide insight into the normal function of the affected protein and, vice versa, a cellular understanding of biological phenomena can help to explain associated disease processes.

For example, cilia are hair-like organelles that extend from the surface of almost all cell types in humans. They exert various tissue-specific functions during development, morphogenesis and homeostasis, which explains why cilia-related disorders can affect many organ systems. Manfred Fliegauf, Thomas Benzing and Heymut Omran (page 880) discuss in a Review from the Mechanisms of Disease article series (www.nature.com/nrm/series/ diseasemech) how a better understanding of the components that are involved in cilia-specific functions in different tissues will help to elucidate the molecular mechanisms underlying ciliopathies. Indeed, several molecular mechanisms involved in cilia-related cystic kidney disease have been identified that can be pharmacologically targeted.

Taking another vital organelle — the mitochondrion — one might expect defects in its cellular dynamics to have equally widespread effects. However, as Scott A. Detmer and David C. Chan (page 870) explain, diseases caused by mutations in mitochondrial fusion and fission components are mostly limited to the neuronal system and involve neurodegeneration. This disease aetiology suggests that mitochondrial dynamics (including transport to specific subcellular localizations) is especially important for polarized cells with high energy demands, as is the case with neurons. So, the study of disease aetiology can teach cell biologists a thing or two about their favourite organelle, process or molecular machine. In turn, cell biologists continue to provide vital insights into disease mechanisms and therapeutic targets.

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: Arianne Heinrichs

SENIOR EDITOR: Ekat Kritikou ASSOCIATE EDITOR: Gemma Alderton ASSISTANT EDITOR: Asher Mullard **COPY EDITOR:** Anne Blewett

SENIOR ART EDITOR (NRMCB): Vicky Askew EDITORIAL SUPPORT MANAGER: Elinor Faulkner

SENIOR COPY EDITORS: David Holmes,

ART CONTROLLER: Susanne Harris SENIOR ART EDITOR: Patrick Morgan MANAGING PRODUCTION EDITOR: Judith Shadwell DEPUTY PRODUCTION EDITOR:

Simon Fenwick

PRODUCTION CONTROLLER: Natalie Smith EDITORIAL ASSISTANTS: Laura Firman, Robert Monk WEB PRODUCTION MANAGER, UK:

Alexander Thurrell MARKETING MANAGERS: Kellie Lane, Amy Mauer

MANAGEMENT OFFICES

lames McOuat

LONDON nature@nature.com The Macmillan Building, 4 Crinan Street, London N1 9XW LIK Tel: +44 (0)20 7833 4000; Fax: +44 (0)20 7843 4596/7 OFFICE MANAGER: Sheryl Ocampo PUBLISHER: Hugh Blackbourn MANAGING DIRECTOR: Annette Thomas **EDITOR-IN-CHIEF, NATURE PUBLICATIONS:** Philip Campbell ASSOCIATE DIRECTORS: Jenny Henderson, Tony Rudland **EDITORIAL PRODUCTION DIRECTOR:**

PRODUCTION DIRECTOR: Yvonne Strong DIRECTOR, WEB PUBLISHING: HEAD OF WEB PRODUCTION: Jeremy Macdonald

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:

DIRECTOR OF NEW TECHNOLOGY: Greg Suprock HEAD OF WEB SERVICES:

Anthony Barrera

NATUREJOBS PUBLISHER: Ben Crowe HEAD OF NATURE RESEARCH & REVIEWS MARKETING: Sara Girard

TOKYO nature@natureasia.com Chiyoda Building 5F, 2-37-1 Ichigayatamachi, Shinjuku-ku, Tokyo 162-0843, Japar 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: MARKETING/PRODUCTION MANAGER:

Takesh Murakar

INDIA 5A/12 Ansari Road, Daryganj, New Delhi 110 002, India Tel/Fax: +91 11 2324 4186 SALES AND MARKETING MANAGER, INDIA:

Harpal Singh Gill Copyright © 2007 Nature Publishing Group Research Highlight images courtesy o Getty Images unless otherwise credited. Printed in Wales by Cambrian Printers

on acid-free paper