

Disease Models & Mechanisms

The online version of Disease Models & Mechanisms is considered to be the version of record

EDITOR-IN-CHIEF

E. Elizabeth Patton, PhD MRC Human Genetics Unit, Institute of Genetics and Cancer, University of Edinburgh, UK

DEPUTY EDITOR-IN-CHIEF Elaine Mardis, PhD Nationwide Children's Hospital, USA

MONITORING EDITORS

James Amatruda MD, PhD Children's Hospital Los Angeles, USA Steven J. Clapcote, PhD University of Leeds, UK Tatsushi Igaki, PhD Kyoto University, Japan Monica J. Justice, PhD The Hospital for Sick Children (SickKids), Canada Karen Liu, PhD King's College London, UK Owen J. Sansom, PhD Beatson Institute for Cancer Research, UK David Tobin, PhD Duke University School of Medicine, USA

ASSOCIATE EDITORS

Sally Dunwoodie, PhD Victor Chang Cardiac Research Institute, Australia Monkol Lek, PhD Yale School of Medicine, USA Sumana Sanyal, PhD Sir William Dunn School of Pathology, UK Ian M. Smyth, PhD Monash University, Australia Eckhard Wolf, Dr Med. Vet. Gene Center, LMU Munich, Germany

SENIOR EDITOR Julija Hmeljak, PhD

FEATURES & REVIEWS EDITOR Kirsty Hooper, PhD

MANAGING EDITOR Rachel Hackett

PRODUCTION EDITORS Akshari Gupta, PhD Claudia Lange, PhD John Nichols, PhD Melissa Ray, PhD

EDITORIAL ADMINISTRATORS Laura Mason Debbie Thorpe PUBLISHER O. Claire Moulton, PhD

FOUNDING EDITOR-IN-CHIEF Vivian Siegel, PhD Vanderbilt University, USA MIT, USA

About the Publisher

The Company of Biologists is a not-for-profit publishing organisation dedicated to supporting and inspiring the biological community. The Company publishes five specialist peerreviewed journals: Development, Journal of Cell Science, Journal of Experimental Biology, Disease Models & Mechanisms and Biology Open. It offers further support to the biological community by facilitating scientific meetings, providing travel grants for researchers and supporting research societies. www.biologists.com

EDITORIAL ADVISORY BOARD

Tim Aitman, MD, PhD The University of Edinburgh, UK Frances Balkwill, PhD Barts Cancer Institute, UK Dirk Bohmann, PhD University of Rochester Medical Center, USA Nancy M. Bonini, PhD University of Pennsylvania, USA Donita C. Brady, PhD University of Pennsylvania, PA, USA Ross Cagan, PhD University of Glasgow - Wolfson Wohl Cancer Research Centre, UK Guy Caldwell, PhD University of Alabama, USA Robert Cardiff, MD, PhD University of California Davis, USA Hans Clevers, MD, PhD Hubrecht Laboratory, The Netherlands Sabine P. Cordes, PhD Lunenfeld-Tanenbaum Research Institute, Canada Arvin C. Dar, PhD Icahn School of Medicine at Mount Sinai, NY, USA Lukas Dow, PhD Weill Cornell Medicine, USA James Dowling, MD, PhD The Hospital for Sick Children (SickKids), Canada Elaine Dzierzak, PhD University of Edinburgh, UK Jonathan A. Epstein, MD Perelman School of Medicine, USA Elizabeth Fisher, PhD University College London, UK Yasuyuki Fujita, MD, PhD Hokkaido University, Japan Aron M. Geurts, PhD Medical College of Wisconsin, USA Aaron D. Gitler, PhD Stanford University School of Medicine, USA David H. Gutmann, MD, PhD Washington University School of Medicine, USA David Hackam, MD, PhD Johns Hopkins Children's Center, USA Antonis Hatzopoulos, PhD Vanderbilt University, USA Susumu Hirabayashi, PhD Imperial College London, UK Brigid Hogan, PhD Duke University, USA Pamela Hoodless, PhD BC Cancer Agency, Canada Deborah Hung, MD, PhD Harvard Medical School, USA Philip Ingham, PhD University of Exeter, UK Raghu Kalluri, MD, PhD MD Anderson Cancer Center, USA Matthew F. Krummel, PhD University of California San Francisco, USA Claudia Lengerke, MD, PhD University Hospital Tübingen, Germany

FOUNDING EDITORS Gerard Evan, PhD Mark C. Fishman, MD Susan Lindquist, PhD Stephen O'Rahilly, MD Nadia Rosenthal, PhD

Yun Li. PhD The Hospital for Sick Children (SickKids), Canada Kelly McNagny, PhD The University of British Columbia, Canada Annemarie H. Meijer, PhD University of Leiden, The Netherlands Marco Milán, PhD IRB Barcelona, Spain Rachel K. Miller, PhD McGovern Medical School, USA Jason Mills, MD, PhD Baylor College of Medicine, USA Richard I. Morimoto, PhD Northwestern University, USA Serge Mostowy, PhD London School of Hygiene & Tropical Medicine, UK Norbert Perrimon, PhD Harvard Medical School, USA Randall T. Peterson, PhD University of Utah, USA Stefano Piccolo, PhD University of Padua, Italy Steve Pollard, PhD Edinburgh Cancer Research Centre, UK Susan Quaggin, MD Northwestern University, USA Lalita Ramakrishnan, MD, PhD University of Cambridge, UK Paul Riley, PhD University of Oxford, UK Kirsten Sadler Edepli, PhD New York University, Abu Dhabi Paul Schofield, PhD University of Cambridge, UK Almut Schulze, PhD Deutsches Krebsforschungszentrum, Germany Chad A. Shaw, PhD Baylor College of Medicine, USA James Shorter, PhD University of Pennsylvania, USA Katalin Susztak, MD, PhD University of Pennsylvania, USA Eirini Trompouki, PhD Institute for Research on Cancer and Aging, France Rickie Patani, PhD, MBBS The Francis Crick Institute, UK Maaike van Putten, PhD Leiden University Medical Center, The Netherlands Esther Verheyen, PhD Simon Fraser University, Canada Richard White, MD, PhD University of Oxford, UK Iwei Yeh, MD, PhD University of California San Francisco, USA Mariia Yuneva, PhD The Francis Crick Institute, UK Dawang Zhou, PhD Xiamen University, China Leonard I. Zon, MD Harvard Stem Cell Institute, USA

Janet Rossant, PhD Allan Spradling, PhD Tian Xu, PhD Magdi Yacoub, MD Huda Zoghbi, MD

Disease Models & Mechanisms

The Company of Biologists Ltd, Bidder Building, Station Road, Histon, Cambridge, CB24 9LF, UK Tel: +44 (0)1223 632684 E-mail: dmm@biologists.com

Disease Models & Mechanisms ISSN 1754-8403 (Print) ISSN 1754-8411 (Online)