Molecular and Cellular Biology

VOLUME 22 ● MARCH 2002 ● NUMBER 6

James N. Ihle, Editor in Chief (2005)
St. Jude Children’s Research Hospital

James C. Alwine, Editor (2003)
University of Pennsylvania School of Medicine

Albert S. Baldwin, Minireview Editor (2004)
University of North Carolina School of Medicine

Dafna Bar-Sagi, Editor (2002)
State University of New York at Stony Brook

Susan M. Berget, Editor (2003)
Baylor College of Medicine

Jonathan A. Cooper, Editor (2003)
Fred Hutchinson Cancer Research Center

Roger J. Davis, Editor (2002)
University of Massachusetts Medical School

Leonard P. Freedman, Editor (2006)
Memorial Sloan-Kettering Cancer Center

Barbara J. Graves, Editor (2003)
University of Utah School of Medicine

Benjamin G. Neel, Editor (2004)
Beth Israel Deaconess Medical Center

Harinder Singh, Editor (2002)
University of Chicago

George F. Sprague, Jr., Editor (2003)
University of Oregon

Patrick Sung, Editor (2004)
University of Texas Health Science Center

Jean Y. J. Wang, Editor (2002)
University of California, San Diego

Albert Einstein College of Medicine

Susan R. Wente, Editor (2004)
Washington University School of Medicine

Jerry L. Workman, Editor (2002)
Pennsylvania State University

EDITORIAL BOARD

Cory Abate-Shen (’03)
Frederick W. Alt (’02)
Marc Aversa, Jr. (’02)
Richard K. Asoian (’02)
Claudio Basilio (’03)
Peter B. Becker (’02)
Shelley L. Berger (’02)
Adrian P. Bird (’02)
Douglas L. Black (’03)
Elizabeth H. Blackburn (’03)
John Blenis (’04)
Allan Bradley (’02)
John B. E. Burch (’03)
John A. Carlson (’02)
Michael Carey (’03)
Mariano Carloni (’04)
Benoit Chabot (’02)
Melinie H. Cobb (’02)
Charles Cole (’02)
Albert J. Courey (’03)
Gerald R. Crabtre (’02)
Frederick R. Cross (’03)

George A. M. Cross (’02)
Thomas Curran (’03)
Alan D’Andrea (’05)
Titia de Lange (’02)
Sharon Y. R. Dent (’04)
Melvin L. DePamphilis (’04)
Channing J. Der (’03)
Thomas H. Eickhaus (’08)
Robert N. Eisenman (’03)
Sarah C. R. Elgin (’03)
Seet Ett (’03)
Douglas Engel (’04)
Bevery Errede (’02)
Mark E. Ewen (’04)
Peggy Furnaham (’03)
Stanley Fields (’03)
Daniel Finley (’02)
Thomas D. Fox (’02)
Manuel Garcia-Blanco (’03)
William T. Garrard (’03)
Sankar Ghosh (’03)
Paula J. Grabowski (’03)
Radolf Grosschedl (’04)

Mark Groudine (’02)
Lorraine J. Gudas (’04)
James E. Haber (’04)
Joyce L. Hamlin (’02)
Nathaniel Heintz (’03)
John W. B. Hershhey (’04)
Peter M. Howley (’03)
Judith Jaehning (’02)
Maria Jasin (’02)
Robert Jensen (’02)
William G. Kaelin, Jr. (’02)
Michael Karin (’03)
Michael B. Kastan (’03)
Andreas Kazlauskas (’04)
Jack D. Keene (’02)
Tom K. Kerpoch (’02)
Richard D. Kolodner (’04)
Laimonis A. Latimos (’14)
Alan Lambowitz (’02)
Andrew Lassar (’02)
Lester F. Lau (’04)
Mitchell A. Lazar (’02)
David Levy (’04)

Michael R. Lieber (’04)
David M. Livingston (’03)
Michael Malinin (’04)
David J. Mangelsdorff (’03)
Lyne E. Massaf (’03)
Martin McMahon (’04)
Aaron P. Mitchell (’02)
David O. Morgan (’02)
Cornelis Murre (’02)
Carol Newton (’02)
Eric N. Olson (’03)
Keiko Ozato (’02)
Tony Pawson (’02)
Stuart W. Peltz (’02)
Norbert Perrimon (’02)
Craig L. Peterson (’02)
John H. Petrini (’02)
Magnus Pfahl (’03)
Steven I. Reed (’03)
Danny Reinberg (’03)
Zeev A. Ronal (’04)
Martine F. Roussel (’04)
David Schatz (’02)

Carl W. Schmid (’02)
Bart Selton (’04)
Ranjan Sen (’02)
Yang Shi (’02)
Dorothy E. Shipp (’02)
Ann-Bin Shin (’02)
Frank Solomon (’03)
David Stern (’03)
Kevin Struhl (’04)
Kelly G. Tatchell (’03)
Lawrence H. Thompson (’03)
Jenny Pan-Yun Ting (’02)
Lex H. T. van der Ploeg (’03)
Terry Van Dyke (’04)
André Velliste (’04)
Karen Vousden (’04)
Fred Winston (’03)
Curt Wittenberg (’04)
Nancy Woychik (’02)
Meng-Chao Yao (’02)
Richard S. Zitomer (’03)

Molecular and Cellular Biology (ISSN 0270-7306), a publication of the American Society for Microbiology (ASM), 1752 N St., N.W., Washington, DC 20036-2904, is devoted to the advancement and dissemination of fundamental knowledge regarding the molecular biology of eukaryotic cells, of both microbial and higher organisms. Instructions to authors are published in the January issue each year; reprints are available from the editors and the Journals Department. The journal is published twice monthly, one volume per year. Nonmember print subscription prices (per year) are: $644, U.S.; $694, Canada (plus 7% GST, or 7% GST + 8% HST where applicable); $768, Europe; $812, Latin America; $815, rest of world. Member print subscription prices (per year) are: $99, U.S.; $150, Canada (plus 7% GST; or 7% GST + 8% HST where applicable); $225, Europe; $267, Latin America; $270, rest of world. Single copies are: $50, nonmember; $20, member (Canadians add 7% GST, or 7% GST + 8% HST where applicable). For prices of electronic versions, contact the Subscriptions Unit, ASM. Correspondence relating to subscriptions, defective copies, missing issues, and availability of back issues should be directed to the Subscriptions Unit, ASM; correspondence relating to reprint orders should be directed to the Reprint Order Unit, ASM; and correspondence relating to disposition of submitted manuscripts, proofs, and general editorial matters should be directed to the Journals Department, American Society for Microbiology, 1752 N St., N.W., Washington, DC 20036-2904. Phone: (202) 737-3600.

Claims for missing issues from residents of the United States, Canada, and Mexico must be submitted within 3 months after publication of the issues; residents of all other countries must submit claims within 6 months of publication of the issues. Claims for issues missing because of failure to report an address change or for issues “missing from files” will not be allowed.

Periodicals postage paid at Washington, DC 20036, and at additional mailing offices. POSTMASTER: Send address changes to Molecular and Cellular Biology, ASM, 1752 N St., N.W., Washington, DC 20036-2904.

Made in the United States of America. Printed on acid-free paper.

DOI: 10.1128/MCB.22.6.2002

Copyright © 2002 American Society for Microbiology. All Rights Reserved.

The code at the top of the first page of an article in this journal indicates the copyright owner’s consent that copies of the article may be made for personal use or for personal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per-copy fee through the Copyright Clearance Center Inc., 222 Rosewood Drive, Danvers, MA 01923, for copying beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale.