

Journal of Cellular Biochemistry

EXECUTIVE EDITORS

In the United States: **C. Fred Fox** • Department of Microbiology and Molecular Genetics, University of California, Los Angeles, CA 90024-1489
Gary S. Stein • Department of Cell Biology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01655

In Europe: **Max M. Burger** • Friedrich-Miescher Institut, Postfach 2543, CH-4002 Basel, Switzerland

FIELD EDITORS

Garth L. Nicolson • Department of Tumor Biology (108), MD Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030
W. Jackson Pledger • H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL 33612-9497
James Watson • Department of Pathology, University of Auckland School of Medicine, Auckland, New Zealand

EDITORIAL BOARD

Jorge E. Allende
Universidad de Chile
Santiago, Chile

Richard G.W. Anderson
University of Texas Health Science Center
Dallas, TX

Yves-Alain Barde
Max-Planck Institute for Psychiatry
Martinsried, Germany

J. Bar-Tana
The Hebrew University
Jerusalem, Israel

Avri Ben-Ze'ev
Weizmann Institute of Science
Rehovot, Israel

Ronald Berezney
SUNY Buffalo
Buffalo, NY

Jaawant Bhorjee
National Cancer Institute
Bethesda, MD

Mina J. Bissell
Lawrence Berkeley Laboratory
Berkeley, CA

Morton E. Bradbury
University of California
Davis, CA

Rodrigo Bravo
Bristol-Myers Squibb
Princeton, NJ

Edward Bresnick
University of Massachusetts Medical Center
Worcester, MA

Ralph Buttyan
Columbia University
New York, NY

Judith Campisi
Boston University Medical School
Boston, MA

Kermit L. Carraway
University of Miami School of Medicine
Miami, FL

Moses V. Chao
Cornell Medical School
New York, NY

Richard A. Clark
State University of New York at Stony Brook
Health Science Center
Stony Brook, NY

David R. Clemmons
University of North Carolina
Chapel Hill, NC

Carl M. Cohen
St. Elizabeth's Hospital
Boston, MA

Carlo M. Croce
Jefferson Medical College
Thomas Jefferson University
Philadelphia, PA

Dennis D. Cunningham
University of California
Irvine, CA

Michael P. Czech
University of Massachusetts Medical Center
Worcester, MA

James R. Davie
University of Manitoba
Winnipeg, Canada

Benoit De Crombrughe
University of Chicago
M.D. Anderson Cancer Center
Houston, TX

Pierre De Meyts
Hagedorn Research Laboratory
Gentofte, Denmark

David Denhardt
Rutgers Laboratory
Piscataway, NJ

Edward A. Dennis
University of California-San Diego
La Jolla, CA

Edward M. De Robertis
University of California
Los Angeles, CA

Rik Derynck
University of California
San Francisco, CA

William N. Drohan
American Red Cross
Rockville, MD

John Eisman
Garvan Institute of Medical Research
Sydney, Australia

John H. Elder
Research Foundation of Scripps Clinic
La Jolla, CA

Marilynn E. Etzler
University of California
Davis, CA

Charles H. Evans
National Cancer Institute
National Institutes of Health
Bethesda, MD

Gerald D. Fasman
Brandeis University
Waltham, MA

Ten Feizi
Glycosciences Laboratory
Middlesex, England

Carl M. Feldherr
University of Florida
College of Medicine
Gainesville, FL

John H. Fessler
University of California
Los Angeles, CA

Richard Firtel
Center for Molecular Genetics
University of California-San Diego
La Jolla, CA

Donald A. Fischman
Cornell University Medical College
New York, NY

Benjamin Geiger
Weizmann Institute of Science
Rehovot, Israel

Ian Gibbons
Kewalo Laboratory
Honolulu, HI

Antonio Giordano
Temple University School of Medicine
Philadelphia, PA

David W. Golde
Memorial Sloan-Kettering Cancer Center
New York, NY

Ira D. Goldfine
Mt. Zion Hospital and Medical Center
San Francisco, CA

Eugene Goldwasser
University of Chicago
Chicago, IL

Curtis C. Harris
National Cancer Institute
National Institutes of Health
Bethesda, MD

Mary E. Hatten
Rockefeller University
New York, NY

Mark R. Hausler
University of Arizona College of Medicine
Tucson, AZ

Norman B. Hecht
Tufts University
Medford, MA

Brian Herman
University of North Carolina
Chapel Hill, NC

Harvey Herschman
University of California
Los Angeles, CA

Richard A. Houghten
Torrey Pines Institute for Molecular Studies
San Diego, CA

Tony Hunter
Salk Institute
San Diego, CA

Maria Imshenetsky
Universidad de Concepcion
Concepcion, Chile

Gary R. Jacobson
Boston University
Boston, MA

Gary L. Johnson
National Jewish Medical Center
Denver, CO

Michael Klagsbrun
The Children's Hospital
Harvard Medical School
Boston, MA

Jeanne Lawrence
University of Massachusetts Medical Center
Worcester, MA

Yvonne Lefebvre
Ottawa Civic Hospital
Ottawa, Ontario, Canada

Jane B. Lian
University of Massachusetts Medical Center
Worcester, MA

Marc E. Lippman
Lombard Cancer Center
Georgetown University
Washington, DC

Elizabeth J. Luna
Worcester Foundation for Experimental Biology
Shrewsbury, MA

Bruce E. Magun
School of Medicine
Oregon Health Science University
Portland, OR

Denis Monard
Friedrich Miescher-Institut
Basel, Switzerland

Harold L. Moses
Vanderbilt University School of Medicine
Nashville, TN

Mart Nilsen-Hamilton
Iowa State University
Ames, IA

Masaki Noda
Tokyo Medical and Dental University
Tokyo, Japan

Anthony W. Norman
University of California
Riverside, CA

Dale L. Oxender
Warner-Lambert Company
Ann Arbor, MI

Richard G. Painter
University of Texas Health Center
Tyler, TX

Sheldon Penman
Massachusetts Institute of Technology
Cambridge, MA

Paul F. Pilch
Boston University School of Medicine
Boston, MA

Archie W. Prestayko
Liphomed
Rosemont, IL

Peter Queensberry
University of Massachusetts Medical Center
Worcester, MA

E. Premkumar Reddy
The Fells Institute for Cancer Research
Temple University
Philadelphia, PA

Phillips W. Robbins
Massachusetts Institute of Technology
Cambridge, MA

Gideon A. Rodan
Merck Sharp & Dohme Research Labs
West Point, PA

Alonzo H. Ross
Worcester Foundation for Experimental Biology
Strewsbury, MA

Russell Ross
University of Washington, Seattle, WA

Giovanni Rovera
Wistar Institute
University of Pennsylvania
Philadelphia, PA

E. Helene Sage
University of Washington
Seattle, WA

Milton H. Saier
University of California-San Diego
La Jolla, CA

Alan R. Saittel
Parke-Davis
Ann Arbor, MI

Martin E. Schwab
Institut für Hirnforschung
Zürich, Switzerland

Eric M. Shooter
Stanford University School of Medicine
Stanford, CA

Justin Silver
Hadassan Medical Organization
Kiryat Hadassah
Jerusalem, Israel

Robert H. Singer
University of Massachusetts Medical School
Worcester, MA

Gail E. Sonenshein
Boston University Medical School
Boston, MA

Kenneth Soprano
Temple University
Philadelphia, PA

Thomas C. Spelsberg
Mayo Clinic and Graduate School of Medicine
Rochester, MN

Eric J. Stanbridge
University of California-Irvine College of Medicine
Irvine, CA

E. Richard Stanley
Albert Einstein College of Medicine
Bronx, NY

Janet L. Stein
University of Massachusetts Medical Center
Worcester, MA

Donald F. Steiner
University of Chicago
Chicago, IL

F. Marc Stewart
University of Massachusetts Medical Center
Worcester, MA

Charles D. Stiles
Harvard Medical School
Boston, MA

Tatsuo Suda
Showa University
Tokyo, Japan

Marvin L. Tanzer
University of Connecticut Health Center
Farmington, CT

Steven L. Teitelbaum
Jewish Hospital at Washington University Medical Center
St. Louis, MO

Jean Paul Thiery
Laboratoire de Physiopathologie du Développement
CNRS-ENS
Paris, France

George Todaro
Fred Hutchinson Cancer Research Center
Seattle, WA

Milan R. Uskoković
Hoffman-La Roche Inc.
Nutley, NJ

R. Van Driel
University of Amsterdam
Amsterdam, The Netherlands

Klaus von der Mark
MPG Gruppe Rheumatologie/Bindegewebsforschung
Erlangen, Germany

D. Martin Watters
Vanderbilt University
Nashville, TN

Noel Weidner
University of California
School of Medicine
San Francisco, CA

Sherman Weissman
Yale University School of Medicine
New Haven, CT

Karel W.A. Wirtz
State University of Utrecht
Utrecht, Netherlands

MANAGING EDITOR, 1995 ABSTRACT SUPPLEMENT

Ann-Marie Handy, Keystone Symposia, Drawer 1630, Silverthorne, CO 80498

Cover: Hanging Lake, Glenwood Springs, Colorado, by Ann-Marie Handy.

© 1995 Wiley-Liss, Inc. All rights reserved. No part of this publication may be reproduced in any form or by any means, except as permitted under section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the publisher, or authorization through the Copyright Clearance Center, 27 Congress Street, Salem, MA 01970, (508) 744-3350, fax (508) 745-9379. Requests to the publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc.

Journal of Cellular Biochemistry (ISSN 0730-2312) is published monthly by Wiley-Liss, Inc., a division of John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012. **Send subscription inquiries to:** John Wiley & Sons, Inc., Subscription Department, 9th Floor, 605 Third Avenue, New York, NY 10158 (212) 850-6543. **Advertising inquiries** should be addressed to Roberta Frederick, Advertising Sales Manager, Wiley-Liss, Inc., 605 Third Avenue, New York, NY 10158-0012, (212) 850-8832. **Offprint Sales and Inquiries** should be directed to the Customer Service Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012, (212) 850-8776. **Subscription Price:** Volumes 57, 58, and 59 (12 issues) plus Supplements 21 (4 parts), 22, and 23, 1995: \$1,860 in US; \$2,040 in Canada and Mexico; \$2,107.50 outside North America. **Special Personal Subscription Rate:** 1994: \$150 within North America; \$210 outside North America. (Individual price does not include Supplements.) All subscriptions outside the U.S. will be sent by air. Payment must be made in US dollars drawn on a US bank. **Change of Address:** Please forward to the subscriptions address listed above six weeks prior to move; enclose present mailing label with change of address. **Claims for Missing Issues:** Claims for undelivered copies will be accepted only after the following issue has been received. Please enclose a copy of the mailing label or cite your subscriber reference number in order to expedite handling. Missing copies will be supplied when losses have been sustained in transit and where reserve stock permits. Send claims to John Wiley & Sons, Inc., Customer Service, 605 Third Avenue, New York, NY 10158. If claims are not resolved satisfactorily, please write to Susan Malawski, Director, Subscriptions Fulfillment and Sales, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158. **Cancellations:** Subscription cancellations will not be accepted after the first issue has been mailed. **Postmaster:** Send address changes to **Journal of Cellular Biochemistry**, Susan Heaney, Subscription Systems and Distribution, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158. **Indexed by:** Current Contents/Life Sciences • Science Citation Index • Scisearch • Chemical Abstracts • Index Medicus • BIOSIS Data Base • Excerpta Medica • Information Retrieval, Ltd. • Cambridge Scientific Abstracts • Institute for Scientific Information-Soviet Union • Current Opinion in Orthopedics • Current Opinion in Pediatrics • Current Opinion in Cell Biology • Current Opinion in Rheumatology • Reference Update. Printed in the United States of America. Copyright © 1995 Wiley-Liss, Inc.