

Journal of Cellular Biochemistry

EXECUTIVE EDITORS

In the United States: **C. Fred Fox** • Molecular Biology Institute, University of California, Los Angeles, CA 90024-1570

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 • Department of Cell Biology, Vanderbilt University School of Medicine, Nashville, TN 37232

James Watson • Department of Pathology, University of Auckland School of Medicine, Auckland, New Zealand

EDITORIAL BOARD

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

Mina J. Bissell
Department of Cellular and Molecular Biology
Lawrence Berkeley Laboratory
Berkeley, CA

Judith Campisi
Department of Biochemistry
Boston University Medical School
Boston, MA

Kermit L. Carraway
Department of Anatomy and Cell Biology
University of Miami School of Medicine
Miami, FL

Moses V. Chao
Department of Cell Biology and Anatomy
Cornell Medical School
New York, NY

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

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

Carl M. Cohen
Department of Cellular and Molecular Biology
St Elizabeth's Hospital
Boston, MA

Dennis D. Cunningham
Department of Microbiology
University of California
Irvine, CA

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

Benoit De Crombrughe
Department of Molecular Genetics
University of Texas
M.D. Anderson Cancer Center
Houston, TX

Pierre De Maeyer
Hagedorn Research Laboratory
Genltofte, Denmark

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

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

Rik Derynck
Molecular Biology
Genentech
South San Francisco, CA

John H. Eider
Department of Molecular Biology
Research Foundation of Scripps Clinic
La Jolla, CA

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

Gerald D. Faaman
Graduate Department of Biochemistry
Brandeis University
Waltham, MA

Carl M. Feldherr
Department of Anatomy and Cell Biology
University of Florida
College of Medicine
Gainesville, FL

John H. Fessler
Department of Biology
University of California
Los Angeles, CA

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

Donald A. Fischman
Department of Cell Biology and Anatomy
Cornell University Medical College
New York, NY

Ian Gibbons
Kewalo Laboratory
Honolulu, HI

David W. Golde
Department of Medicine-Hematology and Oncology
University of California
Los Angeles, CA

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

Eugene Goldwasser
Department of Biochemistry, University of Chicago
Chicago, IL

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

Mark R. Haussler
Department of Biochemistry
University of Arizona College of Medicine
Tucson, AZ

Norman B. Hecht
Department of Biology
Tufts University
Medford, MA

Brian Herman
Department of Anatomy and Cell Biology
University of North Carolina
Chapel Hill, NC

Harvey Herschman
Laboratory of Biomedical and
Environmental Sciences
University of California
Los Angeles, CA

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

R. Colin Hughes
Medical Research Council
National Institute for Medical Research
London, United Kingdom

Tony Hunter
Molecular Biology and Virology Lab
Salk Institute
San Diego, CA

Gary R. Jacobson
Department of Biochemistry
Boston University
Boston, MA

Gary L. Johnson
Department of Pediatrics and Basic Science
National Jewish Medical Center
Denver, CO

Edward Kellenberger
Biozentrum
University of Basel
Basel, Switzerland

Michael Klugebrun
Biological Chemistry and Surgery
The Children's Hospital
Harvard Medical School
Boston, MA

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

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

Bruce E. Magun
School of Medicine
Department of Cell Biology and Anatomy
Oregon Health Science University
Portland, OR

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

Marit Nilsen-Hamilton
Department of Biophysics/Biophysics
Iowa State University
Ames, IA

Anthony W. Norman
Division of Biomedical Sciences
University of California
Riverside, CA

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

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

Roger Patient
King's College
Division of Biomolecular Sciences
London, United Kingdom

Sheldon Penman
Department of Biology
Massachusetts Institute of Technology
Cambridge, MA

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

Archie W. Prestayko
Ethical Pharmaceutical Division
Liphomed
Rosemont, IL

Phillips W. Robbins
Department of Biochemistry
Center for Cancer Research
Massachusetts Institute of Technology
Cambridge, MA

Gideon A. Rodan
Bone Biology and Osteoporosis Research
Merck Sharp & Dohme Research Labs
West Point, PA

Russell Ross
Department of Pathology
University of Washington, Seattle, WA

Milton H. Sailer
Department of Biology
University of California-San Diego
La Jolla, CA

Alan R. Sattiel
Pharmaceutical Research Division
Parke-Davis
Ann Arbor, MI

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

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

Gail E. Sonenshein
Department of Biochemistry
Boston University Medical School
Boston, MA

Thomas C. Spelsberg
Department of Biochemistry and Molecular Biology
Mayo Clinic and Graduate School of Medicine
Rochester, MN

Eric J. Stanbridge
Department of Microbiology and Molecular Genetics
University of California-Irvine College of Medicine
Irvine, CA

E. Richard Stanley
Department of Microbiology and Immunology
Albert Einstein College of Medicine
Bronx, NY

Donald F. Steiner
Howard Hughes Medical Institute
University of Chicago
Chicago, IL

Charles D. Stiles
Department of Microbiology and Molecular Genetics
Harvard Medical School
Boston, MA

Marvin L. Tanzer
Department of Biotechnology and Function
University of Connecticut Health Center
Farmington, CT

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

George Todaro
Oncogenes
Seattle, WA

Milan R. Uskokovic
Natural Products Chemistry
Hoffman-La Roche Inc
Nutley, NJ

Klaus Von Der Mark
MPG Gruppe Rheumatologie/Bindegewebsforschung
Erlangen, Germany

D. Martin Watterson
Department of Pharmacology
Howard Hughes Medical Institute
Vanderbilt University
Nashville, TN

Sherman Weissman
Department of Human Genetics
Yale University School of Medicine
New Haven, CT

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

Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by Wiley-Liss, Inc. for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$00.50 per copy, plus \$00.25 per page is paid directly to CCC, 27 Congress Street, Salem, MA 01970, 0730-2312/91 \$00.50 + .25.

Journal of Cellular Biochemistry (ISSN 0730-2312) is published monthly by Wiley-Liss, Inc., 41 East 11th Street, New York, NY 10003, a division of John Wiley & Sons, Inc. **Send subscription inquiries to:** John Wiley & Sons, Inc., Subscription Department, 7th Floor, 605 Third Avenue, New York, NY 10158.

Subscription Price: Volumes 45, 46, and 47 (12 issues), plus Supplement 15 (8 volumes), 1991: \$855 in US; \$1,035 outside US. 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 Distribution, 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 Dorato, Subscription Fulfillment and Distribution, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158.

Indexed by: Current Contents/Life Sciences • Science Citation Index • Search • 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.

The paper on which this journal is printed adheres to the requirements for library/archival stability.
Printed in the United States of America.