



Molecular & Cellular **PROTEOMICS**

PUBLISHED BY THE AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY, INC.

Co-editors

Ralph A. Bradshaw
University of California, San Francisco

Alma L. Burlingame
University of California, San Francisco

Associate Editors

Ruedi Aebersold, Institute for Molecular Systems Biology, Federal Institute of Technology (ETH) Zürich, Faculty of Natural Sciences, University of Zürich, Zürich and Institute for Systems Biology, Seattle

Steven A. Carr, Broad Institute, Cambridge

Julio E. Celis, Institute of Cancer Biology and DCTB, Copenhagen

Raymond J. Deshaies, HHMI, California Institute of Technology, Pasadena

Gerald W. Hart, Johns Hopkins University School of Medicine, Baltimore

Elizabeth A. Komives, University of California, San Diego

Michael Snyder, Yale University, New Haven

John T. Stults, Genentech, Inc., South San Francisco

Editorial Board Members

Natalie G. Ahn
Leigh Anderson
Roland S. Annan
Terri Attwood
Ronald Beavis
John J. M. Bergeron
Matthew Bogoy
Nils Brunner
Vern Carruthers
Robert Chalkley
Andrew Chantry
Jyoti Choudhary
Karl R. Clauser
Catherine Costello
Pamela F. Crain
Craig M. Crews
James De Voss
Michel Desjardins
Norman J. Dovichi
Ian Fearnley
Stanley Fields
Bruce Futcher
Jerome Garin
Simon J. Gaskell
Anne-Claude Gavin
Robert L. Geahlen
Brad W. Gibson
Jeffrey J. Gorman

Fuchu He
Albert J. R. Heck
Preston Hensley
Hubert Hondermarck
Lan Huang
Ole N. Jensen
Dominique Job
Richard Johnson
Peter Juhasz
Eugene A. Kapp
Barry Karger
Karl-Anders Karlsson
Randall Wharton King
Jeff Kowalak
John W. Kozarich
Bernhard Küster
Rick Lathrop
Hakon Leffler
Kathryn S. Lilley
Matthias Mann
Katalin F. Medzihradzsky
Jeremy Minshall
Judith Murray-Rust
Takemichi Nakamura
Tom Neubert
Ann L. Oberg
Torben Ørntoft
Darrell Pappin

Peter J. Parker
Eric M. Phizicky
Thierry Rabilloud
Carol V. Robinson
David Rocke
Peter Roepstorff
Andrej Sali
Andrej Shevchenko
Kai Simons
A. Ian Smith
Kenneth G. Standing
Shankar Subramaniam
Marc E. Surette
Pierre Thibault
Mike Tyers
Alain Van Dorsselaer
Jan Van Oostrum
Klaas Van Wijk
Marc Vidal
Kenneth W. Walker
Anthony Whetton
Julian P. Whitelegge
Jiarui Wu
Michael B. Yaffe
Rong Zeng
Roman A. Zubarev

Editorial Office

Barbara Gordon, *Executive Director*
Nancy J. Rodnan, *Director of Publications*
American Society for Biochemistry and
Molecular Biology
9650 Rockville Pike
Bethesda, MD 20814-3996
Phone: 301-634-7145
Fax: 301-634-7126
E-mail: mcp@asbmb.org

Office of the Co-editor

Erin A. Schalles, *Manager*
University of California, Irvine
Department of Physiology and Biophysics
346-D Medical Science I
Irvine, CA 92697-4560
Phone: 949-824-7173 Fax: 949-824-8036
E-mail: eschalles@asbmb.org

Office of the Co-editor

Candy Stoner, *Manager*
University of California, San Francisco
Department of Pharmaceutical Chemistry
San Francisco, CA 94143-0446
Phone: 415-476-5641
Fax: 415-476-0688
E-mail: cstoner@asbmb.org

Clinical Proteomics Advisory Committee

Julio E. Celis (Chair)
Institute of Cancer Biology and DCTB, Copenhagen
jec@cancer.dk

John A. Kessler
Northwestern University, Chicago

Murray Korc
Dartmouth Medical School, Hanover

Jeffrey S. Ross
BioGenex Laboratories

Richard J. Havel
University of California, San Francisco

Nils Brünner
Royal Veterinary and Agriculture University, Frederiksberg

GENERAL INFORMATION

This publication is available on-line at <http://www.mcponline.org>. Inquire about availability through your subscription agent or contact: MOLECULAR & CELLULAR PROTEOMICS, P.O. Box 830399, Birmingham, AL 35283-0399, U.S.A., Phone: 800-633-4931 or 205-995-1567, Fax: 205-995-1588.

Submit all manuscripts via the web to: www.mcponline.org/submit. All correspondence should be addressed to:

Editor, Molecular & Cellular Proteomics
9650 Rockville Pike
Bethesda, MD 20814, U.S.A.

Accepted manuscripts will be published with the implicit understanding that the author(s) will pay a \$65 charge per page. Under exceptional circumstances, when no source of grant or other support exists, the author(s) may apply, at the time of submission, for a grant-in-aid to Chairman, Publications Committee, American Society for Biochemistry and Molecular Biology, Inc., 9650 Rockville Pike, Bethesda, MD 20814. All such applications must be countersigned by an appropriate institutional official stating that no funds are available for page charges.

Queries on matters of general editorial policy should be directed to the Journal Editorial Office in Bethesda, telephone 301-634-7150; fax 301-634-7126; E-mail mcp@asbmb.org. *Molecular & Cellular Proteomics* publishes papers on a broad range of topics of interest to scientists working in the field of proteomics. The views expressed are those of the author(s) and not of *Molecular & Cellular Proteomics* or the American Society for Biochemistry and Molecular Biology.

Molecular & Cellular Proteomics is copyrighted by the American Society for Biochemistry and Molecular Biology, Inc. ASBMB grants use without requiring your copyright permission request for: original authors wanting to reproduce up to two figures or tables from their own work to publish in not-for-profit formats or venues, provided that full acknowl-

edgment of the source is provided in the new work. For all other permissions to photocopy or use material electronically from *Molecular & Cellular Proteomics*, ISSN 1535-9476, please access www.copyright.com or contact Copyright Clearance Center, Inc. (CCC) 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. CCC is a not-for-profit organization that provides licenses and registration for a variety of users.

Molecular & Cellular Proteomics (ISSN 1535-9476) is published monthly by the American Society for Biochemistry and Molecular Biology, 9650 Rockville Pike, Bethesda, MD 20814. **2008 Institutional Subscription Rates & Information (volume 7):** United States \$500 (print), \$780 (online), \$1,280 (print + online); Canada \$583 (print), \$780 (online), \$1,363 (print + online); International \$553 (print), \$780 (online), \$1,333 (print + online). Institutional rates are for single site only. For multi-site quotes please contact ASBMB at subscriptions@asbmb.org. Address all correspondence and subscription orders to *Molecular & Cellular Proteomics*, P.O. Box 830399, Birmingham, AL 35283-0399, phone 800-633-4931 or 205-995-1567. Subscriptions are entered on a calendar year basis only. Allow at least six weeks for address changes. Claims for replacement copies must be received within three months of the issue date. For additional subscription information please visit our website at www.mcponline.org.

Maryland residents must add 6% sales tax on print subscriptions unless a tax-exempt certificate number is provided. Canada print rates include 5% GST; if you are tax-exempt, please include a copy of the Sales Tax Exemption Certificate with your order. The GST number for Canadian subscribers is 13037 0018 RT. C.P.C Int'l Pub Mail #0060119. Periodicals postage paid at Bethesda, MD 20814 and at additional mailing offices. Printed in the USA. POSTMASTER: send address changes to *Molecular & Cellular Proteomics* at P.O. Box 830399, Birmingham, AL 35283-0399.