Malcolm Gordon, IUPS Treasurer
Ewa Szczepanska-Sadowska
Akimichi Kaneko
K. E. Barrett, Chair
IUPS/APS Joint Managing Board
Kelly Paralis Keenan, Art Development/Editing and Illustration
Art Direction, Penumbra Design, Inc.
S. Boyer, Journal Copy Editor
R. Scheman, Director of Publications
APS Publications Office
Charleen M. Bertolini
Jenny Stow, Queensland, Australia
Tullio Pozzan, Padua, Italy
Heini Murer, Zurich, Switzerland
José Lopez-Barneo, Seville, Spain
Jennifer Lippincott-Schwartz, Bethesda, MD
Richard S. Lewis, Stanford, CA
Litsa Kranias, Cincinnati, OH
Julie Kauer, Providence, RI
Baruch Kanner, Jerusalem, Israel
Donald Hilgemann, Dallas, TX
D. Graham Hardie, Dundee, UK
Sten Grillner, Stockholm, Sweden
Graham Dockray, Liverpool, UK
Hsiao Chang Chan, Hong Kong, China
Francisco Bezanilla, Chicago, IL
Gerhard Giebisch, New Haven, CT
Michael Caplan, New Haven, CT
Walter Boron, Cleveland, OH
Richard S. Lewis, Stanford, CA
Litsa Kranias, Cincinnati, OH
Michael Caplan, New Haven, CT
Walter F. Boron, Editor-in-Chief, Physiology, c/o
Western Reserve University, Physiology & Biophysics, 130 Mill Pond Way, Hudson, OH 44236
Subscription and Advertising Inquiries: Physiology, The American Physiological Society, 9600 Rockville Pike, Bethesda, MD 20814-3991

Disclaimer: The statements and opinions contained in the articles of Physiology are solely those of the individual authors and contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their owners. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

Copyright Law—unless the copies are for general distribution, advertising, creating new works, or resale—provided the permission fee is paid through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, 548-7733/09 $8.00 Change of Address: The journal must be advised of a change of address at least 6 weeks before date of issue, with both the subscriber’s new and old addresses given. Undelivered copies resulting from an address change will not be replaced. Editorial Inquiries: Walter F. Boron, Editor-in-Chief, Physiology, c/o Charleen Bertolini, Editorial Coordinator, Physiology, Case Western Reserve University, Physiology & Biophysics, 130 Mill Pond Way, Hudson, OH 44236 Subscription and Advertising Inquiries: Physiology, The American Physiological Society, 9600 Rockville Pike, Bethesda, MD 20814-3991.

An international journal of physiology produced jointly by the International Union of Physiological Sciences and the American Physiological Society.

Editor-in-Chief
Walter Boron, Cleveland, OH
Associate Editors
Michael Caplan, New Haven, CT
Ulrich Pohl, Munich, Germany

Editorial: The International Union of Physiological Sciences. IUPS Editorial VIII

Highlights From the Literature

REVIEWS

Islet Inflammation Impairs the Pancreatic β-Cell in Type 2 Diabetes
Marc Y. Donath, Marianne Böni-Schnetzler, Helga Ellingsgaard, and Jan A. Elles
The concept of islet inflammation and its role in the pathogenesis of Type 2 diabetes is discussed.

Roles of Phospholipase C Isozymes in Organogenesis and Embryonic Development
Yoshikazu Nakamura and Kiyoko Fukushima
This review focuses on the roles of phospholipase C in organogenesis and embryonic development.

Regulation of Smooth Muscle Contraction by Small GTPases
Sandria Puente, Lubomír T. Lubomírov, and Gabriele Pfeifer
This review focuses on the regulation of the contractile machinery by Rho/ROK signaling and its interaction with PKC and cyclic nucleotide signaling.

The Roles of CaMKII and F-Actin in the Structural Plasticity of Dendritic Spines: A Potential Molecular Identity of a Synaptic Tag?
Kemichi Ukamoto, Miquel Bosch, and Yasunori Hayashi
Structural and functional plasticity of dendritic spines are coupled by the property of Ca2+ to bundle actin filaments.

Functional Organization of the Poresome Complex and Associated Structures Facilitating Cellular Secretion
Bhuma P. Jetta
In this review, the discovery of the poresome and its structure, dynamics, composition, and functional reconstitution are outlined.

The Rocking Bundle: A Mechanism for Ion-Coupled Solute Flux by Symmetrical Transporters
Lucy R. Forrest and Gary Rudnick
Biochemical and computational analysis of inverted structural repeats has revealed the conformational mechanism used by the bacterial amino acid transporter LacY and a multitude of structurally related transporters.

CORRIGENDA


On the cover: Schematic illustration of native neuronal poresome complexes at the presynaptic membrane and a transiently fused synaptic vesicle at a presynaptic-base releasing neurotransmitter. See Jena, p. 167.

Printed on acid-free paper