

# THE JOURNAL OF General Physiology

---

FOUNDED BY JACQUES LOEB

---

## *Honorary Editors*

JOHN H. NORTHPROP                      L. R. BLINKS  
VINCENT ALLFREY                      A. K. SOLOMON                      C. M. CONNELLY

## *Editor*

PAUL F. CRANEFIELD

## *Associate Editors*

OLAF S. ANDERSEN                      DAVID C. GADSBY                      ROBERT SHAPLEY

## *Editorial Board*

PAUL R. ADAMS	ARTHUR L. FINN	JOHN C. PARKER
CLAY M. ARMSTRONG	WAYNE R. GILES	FLOYD RATLIFF
BRUCE P. BEAN	S. HAGIWARA	LUIS REUSS
FRANCIS D. CARLSON	BERTIL HILLE	JOHN M. RUSSELL
PAUL DE WEER	EARL HOMSHER	BRIAN M. SALZBERG
K. A. PAUL EDMAN	MICHAEL L. JENNINGS	JAMES A. SCHAFFER
ROBERT S. EISENBERG	PHILIP A. KNAUF	STANLEY G. SCHULTZ
ALEXANDRE FABIATO	L. J. MULLINS	ANNEMARIE WEBER

THE JOURNAL OF GENERAL PHYSIOLOGY IS THE OFFICIAL ORGAN OF THE SOCIETY  
OF GENERAL PHYSIOLOGISTS AND IS EDITED IN COOPERATION WITH THE SOCIETY

MAUREEN M. BODO *Copyediting and Production*

INFORMATION FOR SUBSCRIBERS *The Journal of General Physiology* is published monthly, and all subscriptions are on a full calendar year basis. The subscription price per year (2 volumes) is \$105 (postage surcharge Europe only, \$17 net; \$19 net in 1986). Remittances should be made by draft or check in U.S. currency or by postal money order, payable to *The Journal of General Physiology*, The Rockefeller University Press, Post Office Box 5108, Church Street Station, New York 10249. Inquiries about subscriptions, single copies, and back numbers of the *Journal* should be addressed to Order Service, The Rockefeller University Press, 1230 York Avenue, New York 10021. Claims for nonreceipt of issues will be honored when received within 3 months of mailing for U.S. subscribers, 6 months for foreign subscribers. Subscriptions and back issues are available also in *Microfiche* and *Microfilm* through University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106.

---

The appearance of the code at the bottom of the first page of an article in this journal indicates that the Publisher gives consent for individual copies of the article to be made for personal or internal use. This consent is given on the condition, however, that—for copying beyond the limited quantities permitted under Section 107 or 108 of the U.S. Copyright Law—the copier pay the stated per-copy fee, for this journal \$1.00 per article, through the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, a nonprofit organization. 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.

*The Journal of General Physiology* (ISSN 0022-1295) is published monthly for \$105 per year (postal surcharge Europe only, \$17; \$19 in 1986) by The Rockefeller University Press, 1230 York Avenue, New York, NY 10021. Second-class postage paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to *The Journal of General Physiology*, Order Service, The Rockefeller University Press, 1230 York Avenue, New York, NY 10021. Copyright © 1985 by The Rockefeller University Press, 1230 York Avenue, New York, NY 10021. *Made in the United States of America*