

THE JOURNAL OF General Physiology

FOUNDED BY JACQUES LOEB

Honorary Editors

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

Editor

PAUL F. CRANEFIELD

Editorial Board

PAUL R. ADAMS	DAVID C. GADSBY	FLOYD RATLIFF
OLAF ANDERSEN	S. HAGIWARA	JAMES A. SCHAFER
CLAY M. ARMSTRONG	BERTIL HILLE	STANLEY G. SCHULTZ
FRANCIS D. CARLSON	EARL HOMSHER	ROBERT SHAPLEY
C. M. CONNELLY	MICHAEL L. JENNINGS	CHARLES F. STEVENS
PAUL DE WEER	PHILIP A. KNAUF	ROGER C. THOMAS
ROBERT S. EISENBERG	L. J. MULLINS	ANNEMARIE WEBER
ALEXANDRE FABIATO	JOHN C. PARKER	JENS OTTO WIETH
ARTHUR L. FINN	CARL PFAFFMANN	VICTOR J. WILSON

THE JOURNAL OF GENERAL PHYSIOLOGY IS THE OFFICIAL ORGAN OF THE
SOCIETY OF GENERAL PHYSIOLOGISTS

AND IS EDITED IN COOPERATION WITH THE SOCIETY

VOLUME 81 · NUMBER 3 · MARCH 1983

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 \$95 (postage surcharge Europe only, \$16 net).

Remittances should be made by draft or check on New York, 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.A. 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, Mich. 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, Massachusetts 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.

Second-class postage paid at New York, N. Y., and at additional mailing offices. Copyright © 1983 by
The Rockefeller University Press, 1230 York Avenue, New York, N. Y. 10021 *Made in the United States of America*