

THE JOURNAL OF

Pharmacology

AND EXPERIMENTAL THERAPEUTICS

FOUNDED BY JOHN J. ABEL 1909

*Official Publication of The American Society for
Pharmacology and Experimental Therapeutics, Inc.*

EDITOR

Eva King Killam

ASSISTANT EDITOR

Mannfred A. Hollinger

EDITORS FOR SPECIFIC FIELDS

Analgesia and Drug Abuse

Joseph Cochin

Autonomic Pharmacology

Robert E. Stitzel

Behavioral Pharmacology

Roger T. Kelleher

Cardiovascular Pharmacology

Henry R. Besch, Jr.

Michael J. Brody

Benedict R. Lucchesi

Cell Pharmacology

Toshio Narahashi

George B. Weiss

Chemotherapy

H. George Mandel

Developmental Pharmacology

Bernard L. Mirkin

Drug Metabolism and Disposition

Edward Bresnick

Vincent G. Zannoni

Gastrointestinal Pharmacology

Thomas F. Burks

Immunopharmacology

Sydney Spector

Neuropharmacology

Charles O. Rutledge

Wallace D. Winters

Pulmonary Pharmacology

Mannfred A. Hollinger

Renal Pharmacology

William O. Berndt

Toxicology

Curtis D. Klaassen

EDITORIAL ADVISORY BOARD

Martin W. Adler
Edson X. Albuquerque
Edmund G. Anderson
Leslie E. Bailey
John A. Bevan
C. Paul Bianchi
Leslie C. Blaber
David A. Blake
John R. Blinks
Floyd E. Bloom
Theodore M. Brody
Theodore J. Cicero
E. E. Daniel
William C. de Groat
Linda Dykstra
Hugh L. Evans
James A. Ferrendelli
Lawrence J. Fischer
William W. Fleming
Shri N. Giri
Dora B. Goldstein
Frank R. Goodman
Charles W. Gorodetzky

Robert Z. Gussin
Anthony J. Hance
Harold F. Hardman
Louis S. Harris
John A. Harvey
Philip C. Hoffmann
Jordan L. Holtzman
Stephen G. Holtzman
Jerry B. Hook
David M. Jacobowitz
Donald R. Jasinski
Alain F. Junod
Conan Kornetsky
Edwin A. Kroeger
Wayne Levin
John C. McGiff
Donald E. McMillan
Jerry Mitchell
Perry B. Molinoff
W. H. Morse
Mary J. Mycek
Robert A. Neal
Achollos J. Pappano
William A. Pettinger

Larissa A. Pohorecky
James W. Putney, Jr.
Arthur Raines
G. Alan Robison
C. R. Ross
Betty I. Sasyniuk
Arnold Schwartz
Lewis S. Seiden
Eric J. Simon
Roger P. Smith
Robert I. Taber
A. E. Takemori
Robert TenEick
Thomas R. Tephly
C. D. Thron
U. Trendelenburg
Betty M. Twarog
Norman J. Uretsky
Martin A. Wasserman
Richard M. Welch
David P. Westfall
Martin M. Winbury
Ben G. Zimmerman

BOARD OF PUBLICATIONS TRUSTEES

NORMAN WEINER, *Chairman*; GEORGE I. DRUMMOND, LEON I. GOLDBERG, EVA KING KILLAM,
NORMAN KIRSHNER, KENNETH C. LEIBMAN, GILBERT J. MANNERING,
WALTER MODELL, PAUL L. MUNSON, SIDNEY UDEFRIEND

EXECUTIVE OFFICER OF THE SOCIETY

HOUSTON BAKER

COPYRIGHT © 1980 BY THE WILLIAMS & WILKINS COMPANY