

# MOLECULAR PHARMACOLOGY

EDITOR: NORMAN KIRSHNER, *Duke University*

ASSOCIATE EDITOR: T. A. SLOTKIN, *Duke University*

## EDITORIAL AND ADVISORY BOARD

- R. B. BARLOW, *University of Bristol*  
L. L. BENNETT, JR., *Southern Research Institute*  
BRUCE BRECKENRIDGE, *Rutgers Medical School*  
THEODORE M. BRODY, *Michigan State University*  
ERNEST BUEADING, *Johns Hopkins University*  
A. S. V. BURGEN, *National Institute for Medical Research, London*  
COLIN F. CHIGNELL, *National Institute of Environmental Health Sciences*  
RONALD CHUANG, *Oral Roberts University*  
DOMINICK L. CINTI, *University of Connecticut*  
JOHN W. DALY, *National Institute of Arthritis, Metabolism and Digestive Diseases*  
JAMES N. DAVIS, *Duke University*  
GEORGE I. DRUMMOND, *University of Calgary*  
MOHYEE E. ELDEFRAWI, *University of Maryland*  
JAMES R. FOUTS, *National Institute of Environmental Health Sciences*  
ROBERT F. FURCHGOTT, *State University of New York, Downstate Medical Center*  
ALFRED G. GILMAN, *University of Virginia*  
ROBERT I. GLAZER, *National Cancer Institute*  
DAVID V. GODIN, *University of British Columbia*  
AVRAM GOLDSTEIN, *Addiction Research Foundation, Palo Alto*  
H. JOSEPH GOREN, *University of Calgary*  
ROBERT E. HANDSCHUMACHER, *Yale University*  
CHARLES HEIDELBERGER, *LAC-USC Cancer Center, Los Angeles*  
GEORGE H. HITCHINGS, *Wellcome Research Laboratories*  
ARTHUR KARLIN, *Columbia University*  
JOYCE J. KAUFMAN, *Johns Hopkins University*  
SEYMOUR KAUFMAN, *National Institute of Mental Health*  
ERNEST KUN, *University of California, San Francisco*  
HERBERT D. LANDAHL, *University of California, San Francisco*  
ROBERT J. LEFKOWITZ, *Duke University*  
ANTHONY Y. H. LU, *Merck, Sharp, and Dohme Research Laboratories*  
GILBERT J. MANNERING, *University of Minnesota*  
BRUCE MCEWEN, *Rockefeller University*  
RONALD M. MCELHANEY, *University of Alberta*  
KEITH W. MILLER, *Harvard Medical School*  
PERRY B. MOLINOFF, *University of Colorado*  
DANIEL W. NEBERT, *National Institute of Child Health and Human Development*  
CHARLES A. NICHOL, *Wellcome Research Laboratories*  
JOHN P. PERKINS, *University of North Carolina*  
ALAN POLAND, *McArdle Laboratory for Cancer Research, University of Wisconsin*  
BERNARD PULLMAN, *Edmond Rothschild Institut de Biologie Physico-Chimique*  
K. V. RAJAGOPALAN, *Duke University*  
H. P. RANG, *University College, London*  
MARTIN RODBELL, *National Institute of Arthritis, Metabolism and Digestive Diseases*  
GERALD ROSEN, *Duke University*  
JOHN B. SCHENKMAN, *University of Connecticut*  
ISRAEL SILMAN, *The Weizmann Institute of Science*  
DAVID SILVERMAN, *University of Florida*  
IAN C. P. SMITH, *National Research Council of Canada, Ottawa*  
SOLOMON H. SNYDER, *Johns Hopkins University*  
PAUL TALALAY, *Johns Hopkins University*  
JAMES R. TRUDELL, *Stanford University*  
PAUL O. P. TS'O, *Johns Hopkins University*  
SIDNEY UDENFRIEND, *Roche Institute of Molecular Biology*  
DAVID C. U'PRICHARD, *Northwestern University*  
WYLIE W. VALE, *Salk Institute, San Diego*  
MARTHA VAUGHAN, *National Institutes of Health, Bethesda*  
ELLIOT S. VESELL, *Pennsylvania State University*  
O. H. VIVEROS, *Wellcome Research Laboratories*  
HAREL WEINSTEIN, *Mount Sinai School of Medicine*  
H. G. WILLIAMS-ASHMAN, *University of Chicago*

## BOARD OF PUBLICATIONS TRUSTEES

NORMAN WEINER, *Chairman*

HOUSTON BAKER (Ex Officio), *Executive Officer*

GEORGE I. DRUMMOND  
LEON I. GOLDBERG  
EVA KING KILLAM  
NORMAN KIRSHNER  
KENNETH C. LEIBMAN

GILBERT J. MANNERING  
WALTER MODELL  
PAUL L. MUNSON  
CLEMENT A. STONE