MECHANISM OF DRUG ACTION

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1983

ACADEMIC PRESS, INC
(Harcourt Brace Jovanovich, Publishers)

ORLANDO SAN DIEGO SAN FRANCISCO NEW YORK LONDON
TORONTO MONTREAL SYDNEY TOKYO SÃO PAULO

ACADEMIC PRESS, INC.
Orlando, Florida 32887

United Kingdom Edition published by
ACADEMIC PRESS, INC. (LONDON) LTD.
24/28 Oval Road, London NW1 7DX

Library of Congress Cataloging in Publication Data

Symposium on the Biochemical Basis of Drug Action (1983 : Stanford University)
Mechanism of drug action.

Includes index.
1. Pharmacology--Congresses. 2. Biological chemistry--Congresses. I. Singer, Thomas Peter, Date.
II. Mansour, Tag. III. Ondarza, Raul N. IV. Title.
RM301.S9386 1983 615'.7 83–22362
ISBN 0–12–646680–7 (alk. paper)

PRINTED IN THE UNITED STATES OF AMERICA

83 84 85 86 9 8 7 6 5 4 3 2 1

Academic Press Rapid Manuscript Reproduction

Proceedings of a Symposium on The Biochemical Basis of Drug Action Held at Stanford University, Stanford, California, June 20–23, 1983

Mechanism of Drug Action

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PREFACE

The discovery of therapeutically useful classes of drugs has been largely accidental. New pharmacological agents are developed through modification of already known drugs. This type of approach was forced on us by limitations in our knowledge of the pathophysiology of disease processes and lack of detail with regard to the chemistry of enzymes and receptor proteins. Recent conceptual advances in enzymology, protein chemistry, molecular biology, and medicine, as well as the discovery of new mediators of physiological functions, indicate that it is possible now to approach directly the problem of designing useful drugs. Fusing of ideas in the above disciplines indicates not only that drugs can be designed for specific purposes, but that such drugs will have fewer side effects and greater ratios of efficacy to toxicity than any now available. The knowledge required for rational design of therapeutic agents is at the frontier of every established discipline that relates to the life sciences. Only a few scientists, however, have seen the value for society in bringing these diciplines to bear on the common problem of designing drugs "from the ground up." It is important, we believe, to bring together scientists interested in the development of drugs not only to discuss what has been learned but to see what can be accomplished. This will require interaction between disciplines that normally do not communicate with each other.

The First International Symposium on the Molecular Basis of Drug Action, which took place in Queretaro, Mexico, in 1980, was organized to achieve this purpose and to bring together scientists from a diversity of disciplines who have as common goals the elucidation of rational approaches to the development of therapeutic agents.

The reaction of the participants to that meeting was most gratifying. In fact, two of us (Raul N. Ondarza and Thomas P. Singer), who organized the symposium, were urged by many of the participants to hold a second symposium on the subject in 1983. Although the prospects of obtaining adequate funding for the meeting in the economic climate of 1981–1982 did not seem bright, the rapid advances in the area covered in the first sympsoium and the plethora of important subjects on the cutting edge of biochemical pharmacology that were not covered prompted us to go ahead with it. When Tag E. Mansour agreed to join the original team of joint chairmen, the splendid facilities of the Stanford Campus became available. An organizing committee was selected consisting of Jere E. Goyan, Christopher Walsh,

C. C. Wang (who acted as Secretary–Treasurer), David Zakim, and the three Joint Chairmen, T. E. Mansour, R. N. Ondarza, and T. P. Singer. One of the first actions of the committee was the decision to include a session on biochemical toxicology, which seemed conceptually closely interrelated with the biochemical basis of drug action, in fact, often an integral part of it.

Sponsorship and initial funding for the meeting were provided by the symposium committee of the International Union of Biochemistry, for which the organizers are grateful. Without the generous support of industry, however, the symposium could not have taken place. We wish to express our special thanks to the following industrial sponsors: Abbott Laboratories, Allergan Pharmaceuticals, Barnes-Hind Pharmaceuticals, Inc., Ciba-Geigy Corporation, E. I. Dupont de Nemours & Company, Inc., Hoffman-La Roche, Inc., ICI Americas, Inc., Instrumentation Specialties Company, Merck & Company, Inc., Merrell Dow Pharmaceuticals, Inc., Smith-Kline Beckman Corporation, Sterling-Winthrop Research Institute, Syntex USA, Inc.

We also wish to convey our warm gratidute to Mrs. Nancy Schonher, who was responsible for all the local arrangements and the smooth running of the symposium. In the final analysis, however, the success of every scientific meeting hinges primarily on the quality of the presentations. And these, as we trust the readers will agree, were almost uniformly excellent.

THE EDITORS

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