Sidney P. Colowick and Nathan O. Kaplan

Methods in ENZYMOLOGY

Volume XXXI

Biomembranes

Part A

Edited by

Sidney Fleischer and Lester Packer

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EDITED BY

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Preface

A major portion of enzymology deals with enzymes that are components of biological membranes. The study of membrane-bound proteins requires specialized techniques and must be understood within the framework of the membrane and cellular organization. Biomembranes represent one of the most active, exciting, and important fields in contemporary biology. As in other fields, progress in the field of biological membranes depends on advances in technology. In this regard, there have been remarkable advances in the field of biomembranes, and it is quite fitting and timely that "Methods in Enzymology" devote several volumes to this subject.

Such advances include the growth and culture of cells, isolation of cell organelles (or derived purified subcellular fractions), the isolation and characterization of purified membranes and their components, the reconstitution of membranes from their phospholipid and protein components, as well as the use of model membrane systems. Several volumes on biomembranes have been planned. The first two (XXXI and XXXII) deal with techniques in the isolation and characterization of cells, organelles, membranes, and their components. A third volume will be devoted to electron transport and oxidative phosphorylation. It will update the very useful "Oxidation and Phosphorylation," Volume X which was edited by R. W. Estabrook and M. E. Pullman. Yet another volume will concentrate on methods for the study of properties of membranes, their architecture and function, including the study of biological transport and membrane receptors.

The original outline and organization of Volumes XXXI and XXXII benefited from the suggestions, advice, and help of a number of individuals. For this we are most grateful to our Editorial Advisory Board. Additional helpful comments came from a number of individuals including Drs. C. de Duve, J. O. Lampen, Oscar Touster, and Becca Fleischer. We are especially grateful to the contributors for making these volumes possible. The manuscripts from S. F.'s laboratory which are included in Volumes XXXI and XXXII benefited from the advice and helpful comments of Dr. Sidney Colowick. The excellent secretarial assistance of Mrs. Jean Talton of Vanderbilt and the friendly cooperation of the staff of Academic Press are gratefully acknowledged.

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