Methods in Enzymology

Volume 143

Sulfur and Sulfur Amino Acids

EDITED BY

William B. Jakoby

Owen W. Griffith

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NATIONAL INSTITUTES OF HEALTH
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Preface

Because of the large number of diverse and critical roles played by sulfur in several of its oxidation states, the subject of testing and preparing derivatives of sulfur or of measuring, purifying, and characterizing enzymes associated with sulfur metabolism is represented in most of the individual volumes of *Methods in Enzymology*. For example, many of the methyl transferases which utilize *S*-adenosylmethionine have found a home in volumes that deal with nucleic acids, lipids, amines, or detoxication as the major topic; the polyamines are treated in a separate volume. Enzymes and procedures involving sulfur-containing metabolites such as coenzyme A are presented in most of the volumes dealing with metabolic enzymes, and aspects of biotin biochemistry have appeared in books in this series which range in emphasis from vitamins to affinity labeling. Since no single book could cover all of these topics in a reasonable manner, such dispersal is entirely appropriate. In fact, most of the examples cited above are not presented in this volume. It is because of the broad distribution of topics that we include, as an appendix, a brief index to other articles on some of the subject areas covered here.

Progress and interest in the work on sulfur and sulfur amino acids, on seleno and tellurium analogs, and on the separation and quantitation of sulfur-containing compounds have led to the suggestion that a single source book of methods would be useful. We have responded by providing descriptions of a large number of analytical methods for inorganic and organic sulfur compounds in their several oxidation states. This volume also includes general and specific methods of preparation for a number of organic sulfur compounds and presents procedures for the purification and assay of a group of enzymes that participate in inorganic sulfur metabolism as well as in the pathways of formation and utilization of cysteine, methionine, and related compounds.

We express our appreciation to the individual authors who have contributed to the volume and, in the process, have made their often unique expertise available to other investigators interested in the biochemistry of sulfur.

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METHODS IN ENZYMOLOGY

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