Methods in Enzymology

Volume 163

Immunochemical Techniques

Part M

Chemotaxis and Inflammation

EDITED BY

Giovanni Di Sabato

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DEPARTMENT OF MOLECULAR BIOLOGY
VANDERBILT UNIVERSITY
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Preface

Chemotaxis and inflammation, like many other biological processes, can be divided into humoral and cellular components. In this simplest sense soluble activators or mediators of host or external origin interact with cells that respond to signals received and transmitted via specific membrane receptors. The biological consequences are dramatic, and the biochemical mechanisms are complex and interrelated through a series of cascades that may involve several chemical messengers of different chemical classes. Volumes 162 and 163 of *Methods in Enzymology* cover *in vitro* and *in vivo* methodology that has been developed for the purpose of studying the biochemistry of these active humoral factors and the biology of the cells and their receptors that respond to the various signals.

Volume 162 consists of two sections. Section I is subdivided into two parts that cover techniques for studying chemotactic factors, including their isolation, characterization, synthesis in the case of active peptides, and the biochemical changes that take place in cells that respond to chemoattractants. Section II is also divided into two parts. The first several chapters deal with the various methods for studying cellular aspects of inflammation, with some emphasis given to discussions of experimental models of inflammatory disease. The last chapters cover the role in chemotaxis and inflammation of the classical and alternative complement pathways, including the individual complement components, their active fragments, and macromolecular complexes.

Volume 163 consists of three sections. Topics include a comprehensive coverage of the biochemistry and biology of individual mediators of inflammation and acute phase reactants, as well as methods for studying repair mechanisms in inflammation. In this volume special attention is given to the variety of enzymes involved in the inflammatory process, the use of specific inhibitors to study mechanisms at the molecular level, the role of oxidant-induced injury, and methods for studying growth factors that are involved in repairing damaged tissue.

The literature dealing with chemotaxis and inflammation is extensive and new techniques are constantly being developed. Therefore, some selection has been necessary to include the most commonly used and generally applicable techniques. Newer methods often involve significant modifications of established procedures, and we have tried to insure that these innovations have been included.

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JOHN J. LANGONE

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EDITED BY

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