Bioactive Lipid Mediators [Current Reviews and Protocols /

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Monografía

This book summarizes the most recent progress in the studies of lipid mediators from the molecular to clinical level and introduces newly created tools for analysis including imaging mass spectrometry. Comprising 29 chapters divided into four major parts, the book describes the molecular natures of enzymes, transporters, and receptors for lipid mediators (Part I), the function of lipid mediators in Drosophila and Zebrafish (Part II), the relationships between lipid mediators and various diseases (Part III), and detailed procedures of extraction, preparation, and quantification of lipid mediators (Part IV). Research on lipid mediators initially started with analysis of the action of aspirin, and subsequent biochemical experiments identified many enzymes and receptors responsible for the biosynthesis and signal transduction of individual lipid mediators. Through the phenotypic analyses of transgenic and knockout mice, it has been shown that the dysregulation of some lipid mediators causes inflammatory, immune, or oncogenic disorders. Lipid mediators have attracted increased attention because their structures are conserved among different species, and their biosynthetic and signaling pathways have been deciphered at the molecular level. Many drugs that target lipid mediators are already being used in hospitals, and this book suggests further possibilities for development of a wide variety of such drugs. Very recently, highly sensitive mass spectrometry has begun to be used to identify novel lipid mediators that are present only in trace amounts in tissues but with robust biological activity. Written by international experts, this book provides readers a comprehensive view of lipid mediators and related topics and helps in the process of determining research targets for the near future

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