LIPID ANALYSIS IN BIOLOGY, HEALTH, AND DISEASE

Edited by

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Lipid Analysis in Biology, Health, and Disease is a comprehensive reference for medical researchers wanting to make a foray into lipids. This book covers the biology of lipids with an emphasis on the processes whose aberrations tilt the system toward pathology. This book presents an emphasis on analytical methods and informatics pertinent to lipids and their high-throughput identification and quantification. In specific chapters, it also aims to provide information on different databases, search engines, multiple dataset integrative tools, pathway convergence approaches, and outcome measures illustrating identification outcomes with different software. Many such tools may help integrate bench research with biological and/or clinical outcomes. This book ensembles chapters where the differences in lipids, such as in different genders, may lead to different biological outcomes but also bands chapters that are investigational in nature. In clinical medicine, it presents accounts where lipids have clinically established roles. It ends with a chapter aimed at summarizing large-scale lipid-focused health outcome studies. It underscores the importance of appropriate methods and designs in original studies for the best outcomes and inferences.

This book will have a wide swath of appeal, including students, basic researchers, and clinicians engaged in lipidomic and multiomics studies, especially in complex and progressive diseases. This book will also be interesting to clinicians and translational scientists seeking new treatments for various diseases affected by metabolism.

Key features

- Presents different analytical methods for the identification and quantification of lipids. The usage of different software toward lipid identification and quantification as well as advanced statistical methods.
- Includes the knowledge of lipids in a spectrum of biological processes as well as in the different streams of medicine.
- The different aspects of biology-oriented chapters are an attempt to include lipids in basic biology, but with an eye on their biological role, which would become aberrant in disease and disorders.
- Explores the state of lipids as potential biomarkers and emerging investigational medicine that may become a more regular practice in routine clinical medicine.
- Provides an account of a few clinical steams, including emerging fields such as spinal cord injuries, where lipids are part of routine clinical assessment parameters.
- Describes large clinical studies with lipids being a prominent parameter toward clinical outcomes. Our aim is to underscore the analytical techniques that underlie original estimations in individual studies used in metaanalysis.

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