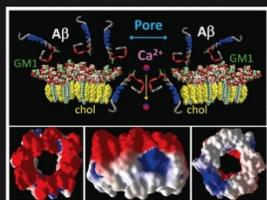


# Brain Lipids in Synaptic Function and Neurological Disease

Clues to Innovative Therapeutic Strategies for Brain Disorders



JACQUES FANTINI AND NOUARA YAHY



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## Brain Lipids in Synaptic Function and Neurological Disease

*Clues to Innovative Therapeutic Strategies for Brain Disorders*

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**A reference on brain lipid structure and function, discussing the crucial roles they play at synapses and the neurological disorders associated with their dysfunction**

### KEY FEATURES

- Written to provide a "hands-on" approach for readers
- Biochemical structures explained with molecular models, and molecular mechanisms explained with simple drawings
- Step-by-step guide to memorize and draw lipid structures
- Each chapter features a content summary, up-to-date references for additional study, and a key experiment with an explanation of the technique

### DESCRIPTION

Lipids are the most abundant organic compounds found in the brain, accounting for up to 50% of its dry weight. The brain lipidome includes several thousands of distinct biochemical structures whose expression may greatly vary according to age, gender, brain region, cell type, as well as subcellular localization. In synaptic membranes, brain lipids specifically interact with neurotransmitter receptors and control their activity. Moreover, brain lipids play a key role in the generation and neurotoxicity of amyloidogenic proteins involved in the pathophysiology of neurological diseases. The aim of this book is to provide for the first time a comprehensive overview of brain lipid structures, and to explain the roles of these lipids in synaptic function, and in neurodegenerative diseases, including Alzheimer's, Creutzfeldt-Jakob's and Parkinson's. To conclude the book, the authors present new ideas that can drive innovative therapeutic strategies based on the knowledge of the role of lipids in brain disorders.

### RELATED TITLES

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