1. Record Nr. UNINA9910346747603321

Autore	Marek Cebecauer
Titolo	Molecular Organization of Membranes: Where Biology Meets Biophysics
Pubbl/distr/stampa	Frontiers Media SA, 2018
Descrizione fisica	1 online resource (150 p.)
Collana	Frontiers Research Topics
Soggetti	Biology, life sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Sommario/riassunto

Biological membranes protect cells and organelles from the surrounding environment, but serve also as organising platforms for physiological processes such as cell signalling. The hydrophobic core of membranes is composed of lipids and proteins influencing each other. Local membrane composition and properties define its molecular organisation and, in this way, regulate the function of all associated molecules. Therefore, studying interactions of components, biophysical properties and overall membrane dynamics provides essential information on its function in the context of cell activities. Such knowledge can contribute to biomedical fields such as pharmacology, immunology, neurobiology and many others. The goal of the Research Topic entitled 'Molecular organisation of membranes: where biology meets biophysics' was to provide a comprehensive platform for publishing articles, reviews and opinions focused on membrane organisation and the forces behind its heterogeneous and dynamic structure. We collected 11 works which cover topics as diverse as general membrane organisation models, membrane trafficking and signalling regulation, biogenesis of caveolae, protein-lipid interactions and the importance of membrane-associated tetraspanins networks. The prevalent theme was the existence of membrane nanodomains. To this point, new emerging technologies are presented which own the power to bring a novel insight on how membrane nanodomains are formed and maintained and what is their function. We believe that the

collection of works in this Research Topic brings forward some important questions which will stimulate further research in this difficult but exciting field.