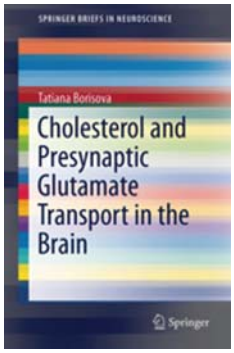
NEW PUBLICATIONS ON BIOTECHNOLOGY AND ADJOINING BRANCHES OF SCIENCE



CHOLESTEROL AND PRESYNAPTIC GLUTAMATE TRANSPORT IN THE BRAIN

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The burden of the modern society is a continuous increase in the number of patients with neurological and neurodegenerative disorders. Nowadays, the analysis of the role of cholesterol in brain functioning is of paramount importance and probably will be so for a long time. Despite recent intense studies on the diverse effects of cholesterol, new regulatory mechanisms are continuously uncovering and the exact role of this steroid in neuronal function and development is further elucidating. Moreover, it was shown recently that cholesterol misbalance has been implicated in the pathogenesis of several neurodegenerative disorders.

Glutamate, which is the major excitatory neurotransmitter in the central nervous system, is involved in many aspects of normal brain functioning. It is well-known that disturbances in glutamate transport contribute to neuronal dysfunction as well as the pathogenesis of neurological disorders.

The aim of the book was to explore the effects of cholesterol depletion/enrichment of the membranes of the nerve terminals on the key characteristics of glutamatergic neurotransmission. The investigation of the mechanisms of regulation of glutamatergic neurotransmission remains in the mainstream of neurobiological research and is of growing interest till now.

The main question addressed by the author was whether membrane cholesterol modulated glutamate transport in presynaptic nerve terminals, and whether altered cholesterol composition of neuronal membrane could mediate pathogenic mechanisms responsible for neurodegeneration or visa versa have neuroprotective features.

The primary audience for this book is researchers, teachers, graduate and Ph.D. students of biological and medical specialties, whose activities and interests relate to biochemistry, neurochemistry, neurophysiology, lipid biochemistry and biotechnology. Highlights of the book may be of interest to a wide range of readers.

TABLE OF CONTENTS:

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