

# Preface

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.

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 vice versa have neuroprotective features.

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Brain

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