

Special Issue

Molecular Pathogenesis of Neurodegenerative Diseases Targeting Early Diagnosis and Treatment

Message from the Guest Editor

The fight against neurodegenerative diseases (NDDs) is a global challenge of the 21st century. Priorities in neuroscience include fundamental studies of the cellular and molecular mechanisms of early pathogenesis of NDDs and their peripheral manifestations targeting early diagnosis and preventive treatment. Modeling the progression of NDDs in animals is the only means to study the molecular mechanisms of neurodegeneration and neuroplasticity in the central and peripheral nervous system at the early stage of the disease. In turn, studies of early peripheral genetic and metabolic manifestations of NDDs are carried out not only in animal models, but also in humans. Most of these studies are focused on changes in the chemical composition of bodily fluids, as well as changes in gene expression and the phenotype of peripheral cells. Fundamental knowledge of the cellular and molecular mechanisms underlying NDDs and the development of methods for early diagnosis may open up prospects for the use of preventive neuroprotective treatments that could slow down neurodegeneration and prolong the period of physical and social activity of subjects at risk.

Guest Editor

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