Joint Special Issue

Molecular and Cellular Mechanisms of Brain Disease: Hippocampus as a Nodal Point

Message from the Guest Editor

Hippocampus is a very plastic brain structure, a critical brain structure for working and spatial memory as well as for emotional behaviors in animals and humans. However, the price for its high plasticity is its selective vulnerability to the development of pathological processes induced by numerous stress factors, as well as ischemia, seizures, head trauma, aging, etc. and mediated by signal transduction associated with stress hormones and neuroinflammation. Altered neurogenesis and damage of hippocampal neurons are suggested to be involved in the onset of numerous brain illnesses, particularly mental disorders and neurodegenerative diseases. Over the past decade, it has become clear that hippocampal malfunction is a nodal point for comorbidity between neurological and psychiatric diseases, in particular cognitive disturbances, epilepsy, and affective disorders.

This Special Issue focuses on the involvement of hippocampus in brain diseases and welcomes both original research articles and review papers that deal with the molecular and cellular mechanisms underlying various cerebral pathologies associated with hippocampal dysfunction.

Guest Editor

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