Special Issue

Novel Research of Neuroinflammation in the Pathogenesis of Alzheimer's Disease and Related Dementias

Message from the Guest Editor

The incidence of dementia continues to expand worldwide; however, there are currently no effective therapeutic strategies for this disabling neurocognitive disorder. Therefore, there is an urgent need to elucidate the underlying mechanisms and develop novel therapeutics for the effective treatment of dementia. Alzheimer's disease (AD) is one of the main causes of dementia, induced by amyloid-β accumulation and subsequent tau hyperphosphorylation in the brain, which results in neuronal injury and cognitive impairment. Furthermore, cerebrovascular amyloid-β deposition can cause vascular cognitive impairment (VCI). Various mechanisms are involved in eliminating amyloid-β from the brain, and one of them is microglial phagocytosis. Accumulating evidence has further proven the role of microglia in the pathogenesis of these diseases. Amyloid-β accumulation and tau aggregates induce microglial activation, thereby triggering inflammatory responses. Moreover, metabolic diseases such as type 2 diabetes and obesity, as well as aging, affect microglial function deleteriously and trigger neuroinflammation.

Guest Editor

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