



## Microglia in Aging and Neurodegenerative Disease

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### Message from the Guest Editors

Microglia, the immune-competent cells of the central nervous system (CNS), are dynamic and responsive to changes in their environment. They undergo an activation process, which renders them either pro-inflammatory or anti-inflammatory. Through the expression of cytokines, chemokines, and other factors, activated microglia have been implicated in the onset and progression of different neurodegenerative diseases. Their rapid responses to injury and changes in the CNS parenchyma that lead to neurodegeneration suggest that they could serve as markers of disease onset. Manipulation of microglial activation can affect the progression of these diseases and modify systemic inflammatory processes. The number of microglia increases in aged mice. Their accumulation and changes in signaling contribute to an accelerated cognitive decline, thus making microglia and their signaling pathways targets to potential therapeutic modifications.

In this Special Issue of IJMS, the focus will be on the roles that microglia play and how they communicate with other cells in the brain parenchyma, their morphology and changes in neurodegenerative situations, as well as in the aging and aged brain.



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**Message from the Editor-in-Chief**

# Special Issue

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