Special Issue

The Role of Glial Cells in the Neuro-Vascular Unit in Health and Disease

Message from the Guest Editors

Glial cells play a pivotal role within the central nervous system, even though for decades they came second to neurons as a research object. While our primary understanding of glial cells encompassed a trophic and support role, over the years, our knowledge of other functions has increased dramatically, both contributing to knowledge on the physiological function of the central nervous system and many processes associated with brain pathologies, including acute or chronic damage. The plasticity of glia is widely known, which could be due to the interactive position of glial cells within the neuro-vascular unit between brain endothelial cells and neurons. This active interconnection is able to trigger detrimental events that can occur within the CNS but also ameliorate and prevent deleterious effects in order to restore the brain homeostasis. For these reasons, our understanding of the role of glial cells is still incomplete and fragmented; indeed, whether CNS damage is triggered by glial activation or brain impairments that induce glial activation is still unclear, thus complicating the pathology.

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Deadline for manuscript submissions

closed (15 December 2024)

Brain Sciences

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.6
Indexed in PubMed

mdpi.com/si/183517

Brain Sciences
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