

Special Issue

Molecular, Cellular and Systemic Signature of Microglia

Message from the Guest Editors

How do microglia, the innate immune cells of the central nervous system, shape the structure and function of the central nervous system? What happens when the neural environment changes due to an injury or microbial neuroinvasion? How do microglia communicate with astrocytes and neurons? Since the state of microglia is vital for the health of neural cells, answers to these questions are indispensable for understanding the (patho)physiology of the brain. The structural phenotype of microglia reflects their functional state. The ramified phenotype, surveilling its environment in the healthy brain, transforms upon rupture of capillaries or microbial neuroinvasion into an amoeboid phagocyte, boosting the clearance of cell debris. While pruning of a surplus of synapses by microglia is physiological in early development, it may become pathophysiological in the adult brain, thus driving neurodegeneration. This special issue is open to state-of-the-art reviews and original research from all biomedical fields.

Guest Editors

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