

Special Issue

Glycome and Nervous System

Message from the Guest Editors

More than 70% of proteins are modified with glycans as N-linked glycosylation of Asn residues or O-linked glycosylation of Ser or Thr residues. In the brain, several adhesion molecules and receptor proteins are modified with specific glycans, and these glycans play important roles in high-order brain function. α -2,8-Linked polysialic acid (polySia) is found in the N-linked glycans of the neural cell adhesion molecule, N-CAM, and is involved in cell–cell interaction during neural development and plasticity. The HNK-1 epitope is predominantly expressed in the brains, modifies the N-linked glycans of several neural proteins, and has a critical role in synaptic plasticity, spatial learning, and memory. Brain-specific b1,6-GlcNAc-branched O-mannosyl glycans decorate protein tyrosine phosphatase Z (PTPRZ), which is expressed in astrocytes and oligodendrocyte precursor cells. In this Special Issue, we would explore how Nerve-specific glycans carry out their roles in neural development as well as interaction of nervous system and tumor environment.

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