

Special Issue

Remyelination: From Molecular Mechanism to Therapy

Message from the Guest Editors

Primary demyelination is observed in several pathologies of the central nervous system. Among the primary ones are Multiple Sclerosis (MS), Neuromyelitis Optica Spectrum Disorder (NMOSD), Acute Disseminated Encephalomyelitis (ADEM), Progressive Multifocal Leukoencephalopathy (PML), Leukodystrophies, and Guillain-Barré Syndrome (GBS), which also affects the peripheral nervous system. An unmet goal for these diseases is to identify a remyelination therapy that could restore at least partially the white matter defects. Recently, it has been shown that even an incomplete remyelination resulting from a pharmacologically improved oligodendrogenesis can restore visual cortical function in mice (Della Flora Nunes et al., 2025 Nature Communication 16:732), suggesting that a better understanding of the molecular mechanism of demyelination and of how promyelinating drugs can stimulate oligodendroglia differentiation can help to develop more effective compounds. In this Special Issue, we would like to focus on the attempts to shed light on the molecular bases of demyelination, as well as reports collecting data and/or describing novel attempts to remyelinate therapies.

Guest Editors

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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