

Biology Seminar

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Epigenetic Control of CNS Myelination

Cell diversity in the central nervous system (CNS) is achieved by a highly regulated process of differentiation from multipotent neural stem cells. The spatial specificity and timing control of neural subtype differentiation are achieved by the interplay between various genetic and epigenetic regulators. Oligodendrocytes, the myelinating cell in the CNS, play an important role in brain development and neuronal function. At present, several signaling pathways have been implicated in regulating oligodendrocyte differentiation, however, the integration of these pathways with transcriptional and posttranscriptional regulatory networks are not fully understood. I will discuss our recent studies on epigenetic mechanisms underlying oligodendrocyte differentiation, particularly chromatin remodeling by histone deacetylases and non-coding microRNAs in controlling oligodendroglial differentiation and myelination.

