



miRNA-Mediated Post-transcriptional Regulation in the Nervous System

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Message from the Guest Editors

MicroRNAs (miRNAs) are small non-coding RNAs (sncRNAs) that, by binding to the 3'UTR of target mRNAs, suppress their translation and/or initiate their degradation. Two decades of research on the functional and molecular characterization of neuronal miRNAs has clearly demonstrated that they are key regulators of neuronal differentiation, brain development and plasticity mechanisms in post-natal neurons. In the nervous system, miRNAs have very diverse and highly specific spatiotemporal patterns of expression and function. Interestingly, external stimuli and neuronal activity modulate their expression and function, through regulatory pathways that involve RNA binding proteins (RPBs) and other RNA interactors. The essential contribution of miRNAs to brain homeostasis is proven by the fact that miRNA loss of function or deregulation is highly associated with neural disease.

This Special Issue aims to discuss recent findings on the molecular mechanism of miRNA-dependent gene expression regulation in the brain. We welcome original research, reviews, and other article types presenting newly discovered miRNA molecular mechanisms and their co-actors in the nervous system.





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