



MOLECULAR AND CELLULAR NEUROBIOLOGY



12h15

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« Astrocytes are the new neurons: looking at a specific subpopulation, the Olig2-AS »

Résumé:

In the vertebrate central nervous system, glial cells display highly distinctive morphological and functional properties. Notably, astrocytes participate in a wide variety of complex and essential functions, including synaptic development and plasticity, trophic regulation and blood-brain barrier formation. Work over the last decades has allowed significant advance in unravelling the complexity of macroglial cell functions, highlighting the existence of a far greater level of heterogeneity among glial cells than previously considered. We recently characterized, in the mouse spinal cord, a subpopulation of astrocytes (Olig2-AS) that can be distinguished from other astrocyte populations by the expression of the transcription factor Olig2. Using transcriptomic analyses, we provided evidence that spinal Olig2-AS may play a specific role in synapse regulation and our preliminary data in the adult mouse brain show that Olig2-AS exhibit preferential enrichment in specific areas of the cerebral cortex. By using transgenic mice, gene expression profiling, in vitro techniques to generate astrocytes from human induced pluripotent stem cells, our objective is to unravel the functional specificity of Olig2-AS.



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