Product Description

Astrocytes are the major cell type in the mammalian brain. They provide a variety of supportive functions for their partner neurons in the central nervous system, such as neuronal guidance during development, ion and water homeostasis, blood flow regulation, neurotransmission, energy metabolism, and immune defense [1]. Astrocytes have also been implicated in various pathological processes [2]. Impairment of normal astrocyte functions during stroke and other insults can critically influence neuron survival. Long-term recovery after brain injury, through neurite outgrowth, synaptic plasticity, or neuron regeneration, is also influenced by astrocyte surface molecule expression and trophic factor release [3]. Numerous studies have demonstrated that astrocytes are among the most functionally diverse group of cells in the CNS [4]. Cultured mouse astrocytes are a useful in vitro model for studying the molecular and cellular properties of the central nervous system.

iXCells Biotechnologies provides high quality Mouse Astrocytes-brain stem (MA-bs), which are isolated from embryonic day 15 mouse brain stem and cryopreserved at P1, with >0.5 million cells in each vial. MA-bs express GFAP are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand for 5 population doublings in Astrocyte Medium (Cat# MD-0039) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Embryonic day 15 mouse brain stem
Package Size	0.5 million cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Astrocyte Medium (Cat# MD-0039)

References

[1] Oberheim N, Goldman S, Nedergaard M. (2012) "Heterogeneity of astrocytic form and function." Methods in Mol Biol. 814: 23-45.
[2] van der Laan LJ, De Groot CJ, Elices MJ, Dijkstra CD. (1997) "Extracellular matrix proteins expressed by human adult astrocytes in vivo and in vitro: an astrocyte surface protein containing the CS1 domain contributes to binding of lymphoblasts." J Neurosci Res. 50: 539-48.
[3] Chen Y, Swanson RA. (2003) "Astrocytes and brain injury." J Cereb Blood Flow Metab. 23: 137-49. [4] Shao Y, McCarthy KD. (1994) “Plasticity of astrocytes.” Glia. 11: 147-55.

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