

Product Description

Astrocytes are the major cell type in the mammalian brain. They have been implicated in a variety of supportive functions for their partner neurons in the CNS, such as neuronal guidance during development, ion and water homeostasis, blood flow regulation, neurotransmission, energy metabolism, and immune defense [1]. Recent studies have shown that spinal cord astrocytes contribute to neuroinflammation by chemokine expression which leads to the recruitment of “inflammatory” monocytes and neutrophils to the lesion site [2]. Experimentally, spinal cord astrocytes have also been used to study the wobbler mutation and muscular dystrophy in mice [3] and astrogliosis [4]. As the recognition of the importance of astrocytes in nervous system functioning is increasing, specifically regarding the modulation of neural activity, astrocyte cultures are continuing to provide a useful tool in exploring the diverse properties and functions of these cells.

iXCells Biotechnologies provides high quality Mouse Astrocytes-spinal cord (MA-sc), which are isolated from neonate day two mouse spinal cord and cryopreserved at P1, with >0.5 million cells in each vial. MA-sc 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	Neonatal day two mouse spinal cord
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] Pineau I, Sun L, Bastien D, Lacroix S. (2010) Astrocytes initiate inflammation in the injured mouse spinal cord by promoting the entry of neutrophils and inflammatory monocytes in an IL-1 receptor/MyD88-dependent fashion. *Brain Behav Immun.* 24: 540-53.
- [3] Hantaz-Ambroise D, Blondet B, Murawsky M, Rieger F. (1994) Abnormal astrocyte differentiation and defective cellular interactions in wobbler mouse spinal cord. *J Neurocytol.* 23: 179-92.
- [4] Bhalala O, Pan L, Sahni V, McGuire T, Gruner K, Tourtellotte W, Kessler J. (2012) microRNA-21 regulates astrocytic response following spinal cord injury. *J Neurosci.* 32: 17935-47.

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