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Monoclonal Antibody to Astrocytes (Low Grade Astrocytoma Marker) - Ascites

Catalog No.: AM32778SU-N

Quantity: 0.1 ml

Host / Isotype: Mouse / IgM

Clone: J1-31

Immunogen: Human cerebral white matter from a multiple sclerosis patient.

Format: **State:** Liquid Ascites

Applications: **Western blot:** Under Reducing conditions, recognizes a 30kDa protein (Singh, R et al (1986) Biosci Rep 6(1):73-80).
Immunocytochemistry.
Immunohistochemistry on Paraffin Embedded Tissue Sections.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody recognizes an intracellular protein antigen (MW 30 kDa) expressed by Human and rat astrocytes and other specialized glia (Muller cells of the retina, Bergmann fibers of the cerebellar cortex, tanycytes of the hypothalamus and ciliated ependymal cells) in the central nervous system (CNS).
The antibody has recently been found to be a specific marker for low grade astrocytoma in human brain tissue. The antibody is able to distinguish between low grade astrocytoma and normal reactive gliosis (patent application filed).
Monoclonal antibody *J1-31* was raised against crude homogenate of brain tissue from a multiple sclerosis (MS) patient (autopsy sample; Malhotra et al.: Microbios Letters 26:151-157, 1984). In Human brain, MAb *J1-31* recognizes an intracellular protein antigen (J1-31 antigen), which bands at approximately 30,000 daltons under reducing conditions for sodium dodecyl sulfate gel electrophoresis (Singh et al.: Bioscience Reports 6:73-79, 1986).
By Immunofluorescence microscopy, MAb *J1-31* stains those cells that are also stained by antiserum to glial fibrillary acidic protein (GFAP), namely astrocytes, retinal Muller cells, and tanycytes in the ependyma (Predy et al.: Bioscience Reports 7:491-502, 1987). In addition, MAb J1-31 stains ciliated ependymal cells that do not express GFAP (Malhotra, SK (1989) J Neurosci Res. 22(1):36-49).

Storage: Upon receipt, store undiluted (in aliquots) at -20°C.
Avoid repeated freezing and thawing.
Shelf life: One year from despatch.

General Readings: 1. Singh R, Singh B, Malhotra SK. A new "marker" protein for astrocytes. Biosci Rep. 1986 Jan;6(1):73-80. PubMed PMID: 2421799.

2. Predy R, Malhotra SK, Das GD. Enhanced expression of a protein antigen (J1-31 antigen, 30 kilodaltons) by reactive astrocytes in lacerated spinal cord. J Neurosci Res. 1988 Apr;19(4):397-404, 466-7. PubMed PMID: 3385801.
3. Malhotra SK, Predy R, Johnson ES, Singh R, Leeuw K. Novel astrocytic protein in multiple sclerosis plaques. J Neurosci Res. 1989 Jan;22(1):36-49. PubMed PMID: 2926840.
4. Malhotra SK, Svensson M, Aldskogius H, Bhatnagar R, Das GD, Shnitka TK. Diversity among reactive astrocytes: proximal reactive astrocytes in lacerated spinal cord preferentially react with monoclonal antibody J1-31. Brain Res Bull. 1993;30(3-4):395-404. PubMed PMID: 8457889.
5. Malhotra, S.K., Luong, L.T., Bhatnagar, R., & Shnitka, T.K.,Upregulation of reactive astrogliosis in the rat glioma cell line by combined mechanical and chemical injuries. Cytobios, 88, 115-134, 1997.