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Product Information

Anti-Glial Fibrillary Acidic Protein antibody, Mouse monoclonal
clone G-A-5, purified from hybridoma cell culture

Product Number **G6171**

Synonym: Anti-GFAP

Product Description

Anti-Glial Fibrillary Acidic Protein antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma G-A-5 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified GFAP from pig spinal cord (GeneID 396562). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Monoclonal Anti-Glial Fibrillary Acidic Protein recognizes human, pig and rat GFAP. It does not cross react with vimentin, which is frequently coexpressed in glioma cells and some astrocytes. The antibody may be used in various immunochemical techniques including immunoblotting (~ 50 kDa),[1] immunocytochemistry,[1,2] and immunohistochemistry.[3,4] In indirect immunofluorescent labeling on alcohol-fixed or frozen sections, this antibody stains astrocytes and Bergmann glia cells, gliomas, and other glial cell derived tumors.

Intermediate filaments (IFs) with a characteristic 10 nm diameter, are a distinct class of molecularly heterogeneous cytoskeletal filaments defined by ultrastructural, immunological, and biochemical criteria. Intermediate filaments differ significantly from the other cytoskeletal elements of the cell, namely microtubules and microfilaments, and are components of most eukaryotic cells. Glial fibrillary acidic protein (GFAP) is a non-soluble acidic cytoskeletal protein. It is the principal intermediate filament of human astrocytes, which belongs to the class-III intermediate filament proteins. It is thought to be important in modulating astrocyte motility and shape by providing structural stability to astrocytic process.[5] Due to its specificity and abundance, it has become the most commonly used marker for astrocytes in both clinical and basic studies. Synthesis of the protein is activated as astrocytes mature, and is significantly increased as part of the reactive gliosis that occurs in response to most brain injuries.[6,7] The use of GFAP antibodies has become a valuable tool in studying central nervous system injury, disease and development.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at −20 °C in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunofluorescence: a working antibody concentration of 2.5-5 μg/mL is recommended using alcohol-fixed sections of rat brain/cerebellum.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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3. Sternfeld, M et al., *Proc. Natl. Acad. Sci. USA.,* **97**, 8647-8652 (2000).
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5. Eng, L.F., et al., *Neurochem. Res.,* **25**, 1439-1451 (2000).

6. Eddleston, M., and Mucke, L., *Neurosci.,* **54,** 15-36 (1993).

7. Zhu, H., and Dahlström, A., *J. Neurosci. Res*., **85,** 2783-2792 (2007).

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