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Anti–Glial Fibrillary Acidic Protein, Mouse Monoclonal 131-17719 (Anti–GFAP)

Quick Facts

Storage upon receipt:
- 4°C or –20°C in aliquots
- Avoid freeze-thaw cycles
- Protect from light (A-21294, A-21295)

Abs/Em: See Table 1

Working concentration: 1–10 µg/mL

Introduction

The 50 kDa type III intermediate filament protein glial fibrillary acidic protein (GFAP) is a major structural component of astrocytes and some ependymal cells.[1] GFAP associates with the calcium binding protein annexin II-p2 and S-100.[2,3] Association with these proteins together with phosphorylation regulates GFAP polymerization. Astroycytes respond to brain injury by proliferation (astrogliosis), and one of the first events to occur during astrocyte proliferation is increased GFAP expression. Molecular Probes' anti–GFAP monoclonal antibody, clone 131-15019 ($IgG_{1,\kappa}$), can be used to aid in the identification of cells of glial lineage. Interestingly, antibodies to GFAP have been detected in individuals with dementia,[4] and tumors of glial origin contain high counts of GFAP. In the central nervous system, anti–GFAP stains astrocytes and ependymal cells. In the peripheral nervous system, the antibody stains Schwann cells, satellite cells and enteric glial cells. No positive staining is observed in skin, connective tissue, adipose, lymphatic, muscle or gastrointestinal tissues; nor is their staining in liver, pancreas, kidney, ureter or bladder tissues. Molecular Probes' anti–GFAP does not cross react with vimentin, which is frequently coexpressed in some astrocytes and Bergmann glia cells, and also in gliomas and other glial cell–derived tumors. Molecular Probes also offers two Alexa Fluor® dye–labeled anti–GFAP antibodies to aid in multi-labeling experiments (see Table 1).

Table 1. *Alexa Fluor dye–labeled anti–GFAP antibodies.*

Catalog Number	Fluorophore	Abs *	Em *
A-21294	Alexa Fluor 488	495	519
A-21295	Alexa Fluor 594	590	617

* Approximate absorption (Abs) and fluorescence emission (Em) maxima in nm for conjugates

Materials

Contents

The unlabeled mouse anti–GFAP monoclonal antibody (A-21282) is supplied in a unit size of 100 µL as a 1 mg/mL solution in phosphate-buffered saline (PBS), pH 7.2, containing 5 mM sodium azide and 0.1% bovine serum albumin (BSA).

The Alexa Fluor dye–labeled anti–GFAP antibodies are supplied in unit sizes of 50 µL as 1 mg/mL solutions in PBS, pH 7.2, containing 5 mM sodium azide and 0.1% BSA. Upon receipt, store the solutions at 4°C protected from light. Protect the labeled antibodies from light. The degree of labeling is indicated on the product label. At the time of preparation, the products are certified to be free of unconjugated dyes.

Storage

Upon receipt, store the unlabeled or labeled anti–GFAP antibodies at 4°C. Protect the unlabeled antibodies from light. When properly stored, these products should be stable for at least three months. For longer storage, divide the solutions into single-use aliquots and freeze at -20°C. Frozen aliquots are stable for at least six months. AVOID REPEATED FREEZING AND THAWING.

It is a good practice to centrifuge the Alexa Fluor dye–labeled protein conjugate solutions briefly in a microcentrifuge before use; only the supernatants should then be added to the experiment. This step will eliminate any protein aggregates that may have formed during storage, thereby reducing nonspecific background staining.

Application

Because staining protocols vary with application, the appropriate dilution should be determined empirically. A final concentration of 1–10 µg/mL should be satisfactory for most immunohistochemical applications.

References

1. Annu Rev Biochem 63, 345–382 (1994); **2.** Biochim Biophys Acta 1450, 191–231 (1999); **3.** Biochim Biophys Acta 1357, 129–154 (1997); **4.** J Neuropathol Exp Neurol 58, 29–39 (1999).

Product List *Current prices may be obtained from our Web site or from our Customer Service Department.*

Cat #	Product Name	Unit Size
A-21282	anti-glial fibrillary acidic protein, mouse monoclonal 131-17719 (anti-GFAP) *1 mg/mL*	100 µL
A-21294	anti-glial fibrillary acidic protein, mouse monoclonal 131-17719, Alexa Fluor® 488 conjugate (anti-GFAP, Alexa Fluor® 488 conjugate) *1 mg/mL*	50 µL
A-21295	anti-glial fibrillary acidic protein, mouse monoclonal 131-17719, Alexa Fluor® 594 conjugate (anti-GFAP, Alexa Fluor® 594 conjugate) *1 mg/mL*	50 µL

Contact Information

Further information on Molecular Probes' products, including product bibliographies, is available from your local distributor or directly from Molecular Probes. Customers in Europe, Africa and the Middle East should contact our office in Leiden, the Netherlands. All others should contact our Technical Assistance Department in Eugene, Oregon.

Please visit our Web site — **www.probes.com** — for the most up-to-date information

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