

Anti-GFAP Antibody (Previously Covance catalog# PRB-571C)

Catalog# / Size	840001 / 100 µL
Clone	Poly28400
Regulatory Status	RUO
Other Names	Glial Fibrillary Acidic Protein
Previously	Covance Catalog# PRB-571C
IsoType	Rabbit Polyclonal IgG
Description	<p>Glial Fibrillary Acidic Protein (GFAP) was found to be a member of the 10nm or intermediate filament protein family, specifically the intermediate filament protein family Class III, which also includes peripherin, desmin and vimentin. The GFAP protein runs on gels at ~55kD protein, usually associated with lower molecule weight bands which are thought to be proteolytic fragments and alternate transcripts from the single gene. GFAP is strongly and specifically expressed in astrocytes and certain other astroglia in the central nervous system, in satellite cells in peripheral ganglia, and in non-myelinating Schwann cells in peripheral nerves. In many damage and disease states GFAP expression is heavily upregulated in astrocytes. In addition neural stem cells frequently strongly express GFAP. Antibodies to GFAP are therefore very useful as markers of astrocytic cells and neural stem cells. In addition many types of brain tumor, presumably derived from astrocytic cells, heavily express GFAP. Finally, Alexander's disease was recently shown to be caused by point mutations in protein coding region of the GFAP gene. All forms of Alexander disease are characterized by the presence of Rosenthal fibers, which are GFAP containing cytoplasmic inclusions found in astrocytes.</p>

Product Details

Reactivity	Human, Mouse, Rat
Antibody Type	Polyclonal
Host Species	Rabbit
Immunogen	This antiserum was made with a preparation of recombinant GFAP expressed in bacteria and highly purified. Subsequent boosts were performed with purified GFAP from bovine spinal cord.
Preparation	Serum
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	Store at -20°C. Upon initial thawing, apportion into working aliquots and store at -20°C. Avoid repeated freeze-thaw cycles to prevent denaturing the antibody. For long-term storage, keep the antibody at -80°C.
Application	WB - Quality tested IHC-P - Verified
Recommended Usage	Each lot of this antibody is quality control tested by western blotting. For western blotting, a dilution range of 1:10000 - 1:20000 is suggested. For immunohistochemistry on formalin-fixed paraffin-embedded tissue sections, a dilution of 1:1000 is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	Multiple protein fragments ranging from 38 to 48 kD have been reported in human CNS lysates resulting from caspase- and calpain-mediated cleavage of GFAP.
Additional Product Notes	This product may contain other non-IgG subtypes.
Product Citations	1. Miyamoto Y, <i>et al.</i> 2016. Nat Commun. 7:13478. PubMed
RRID	AB_2565444 (BioLegend Cat. No. 840001)

Antigen Details

Structure	GFAP is a 432 amino acid protein with a molecular mass of ~50 kD.
Distribution	Tissue distribution: GFAP is expressed by numerous cell types of the central nervous system (CNS) including astrocytes, ependymal cells, and Bergmann glia cells (protoplasmic astrocyte). GFAP is expressed in cells lacking fibronectin. Cellular distribution: Cytoskeleton and cytosol
Function	GFAP is a class III intermediate filament and a structural constituent of the cytoskeleton. It is a cell-specific marker that is used to distinguish astrocytes from other glial cells during the development of the CNS.
Cell Type	Astrocytes
Biology Area	Cell Biology, Neuroscience, Neuroscience Cell Markers
Molecular Family	Intermediate Filaments
Antigen References	<ol style="list-style-type: none">1. van Bodegraven EJ, <i>et al.</i> 2019. <i>Glia</i>. 67:1417-1433.2. Pekny M, <i>et al.</i> 2019. <i>Neurosci Lett</i>. 689:45.3. Hol EM, <i>et al.</i> 2017. <i>Cold Spring Harb Perspect Biol</i>. 9(12).
Gene ID	2670

Related Protocols

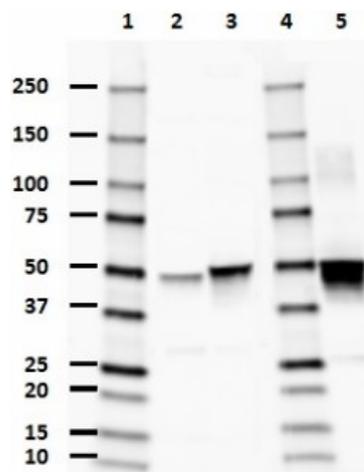
[Western Blotting Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

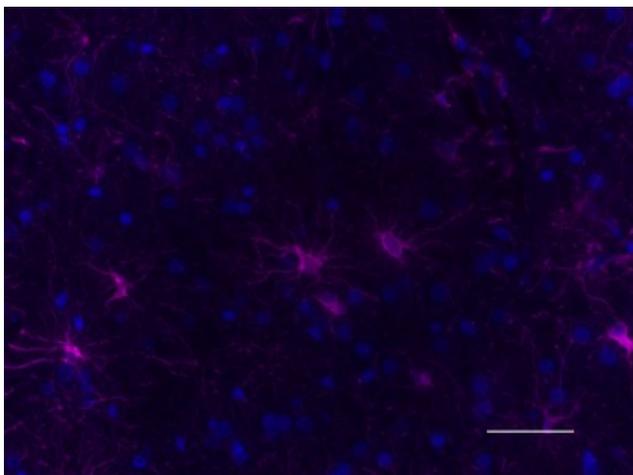
Other Formats

Anti-GFAP

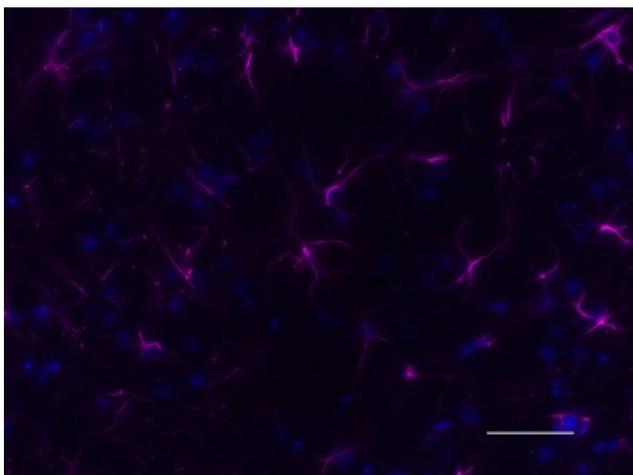
Product Data



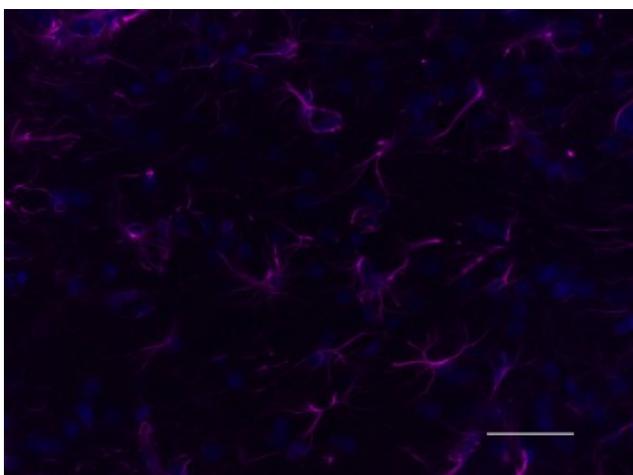
Western blot of anti-GFAP antibody (Poly28400). Lane 1, 4: Molecular weight marker; Lane 2: 20 μ g of mouse brain lysate; Lane 3: 20 μ g of rat brain lysate; Lane 5: 20 μ g of human brain lysate. The blot was incubated with a 1:20000 dilution of the primary antibody overnight at 4°C, followed by incubation with donkey anti-rabbit IgG antibody (Cat. No. 406401). Enhanced chemiluminescence was used as the detection system.



IHC staining of anti-GFAP antibody (Poly28400) on formalin-fixed paraffin-embedded human brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with a 1:1000 dilution of the primary antibody overnight at 4°C, followed by incubation with 2.5 µg/mL of Alexa Fluor® 647 donkey anti-rabbit IgG antibody (Cat. No. 406414) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 40X objective. Scale bar: 50 µm



IHC staining of anti-GFAP antibody (Poly28400) on formalin-fixed paraffin-embedded mouse brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with a 1:1000 dilution of the primary antibody overnight at 4°C, followed by incubation with 2.5 µg/mL of Alexa Fluor® 647 donkey anti-rabbit IgG antibody (Cat. No. 406414) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 40X objective. Scale bar: 50 µm



IHC staining of anti-GFAP antibody (Poly28400) on formalin-fixed paraffin-embedded rat brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with a 1:1000 dilution of the primary antibody overnight at 4°C, followed by incubation with 2.5 µg/mL of Alexa Fluor® 647 donkey anti-rabbit IgG antibody (Cat. No. 406414) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 40X objective. Scale bar: 50 µm

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587