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# Anti-GFAP Antibody Picoband®

**Catalog Number:** PB9082

## About GFAP

Glial fibrillary acidic protein (GFAP) is a protein that is encoded by the GFAP gene in humans. It is an intermediate filament (IF) protein that is expressed by numerous cell types of the central nervous system (CNS) including astrocytes, and ependymal cells. It is mapped to 17q21.31. GFAP is closely related to its non-epithelial family members, vimentin, desmin, and peripherin, which are all involved in the structure and function of the cell's cytoskeleton. GFAP is thought to help to maintain astrocyte mechanical strength, as well as the shape of cells. This gene has been shown to play a role in mitosis by adjusting the filament network present in the cell. GFAP is necessary for many critical roles in the CNS. What's more, GFAP also plays a role in astrocyte-neuron interactions as well as cell-cell communication.

## Overview

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| Product Name | Anti-GFAP Antibody Picoband® |
| Reactive Species | Human, Mouse, Rat |
| Description | Boster Bio Anti-GFAP Antibody Picoband® catalog # PB9082. Tested in IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat, Pig. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance. |
| Application | IF, IHC, WB |
| Clonality | Polyclonal |
| Formulation | Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.<br>*This antibody is supplied in a stabilized formulation.<br>Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required. |
| Storage Instructions | Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles. |
| Host | Rabbit |
| Uniprot ID | P14136 |

## Technical Details

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| Immunogen | E.coli-derived human GFAP recombinant protein (Position: Q93-M432). Human GFAP shares 94% amino acid (aa) sequence identity with both mouse and rat GFAP. |
| Recommended Detection Systems | Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western |

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| | blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P). |
| Cross Reactivity | No cross-reactivity with other proteins |
| Isotype | Rabbit IgG |
| Form | Lyophilized |
| Concentration | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml. |
| Purification | Immunogen affinity purified. |
| Suggested Dilutions | Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat<br>Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat, Pig<br>Immunofluorescence, 5ug/ml, Rat |

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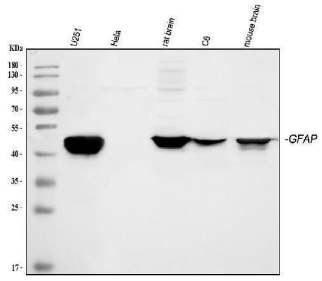
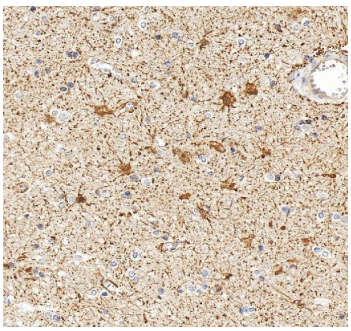
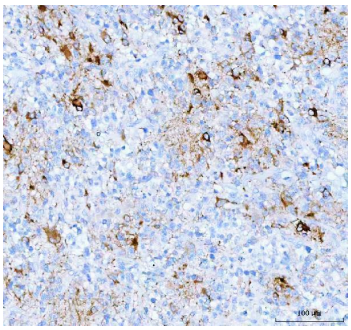
# Anti-GFAP Antibody Picoband® (PB9082) Images




Western blot analysis of GFAP using anti-GFAP antibody (PB9082). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human U251 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: rat brain tissue lysates, Lane 4: rat C5 whole cell lysates, Lane 5: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GFAP antigen affinity purified polyclonal antibody (Catalog # PB9082) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GFAP at approximately 50 kDa. The expected band size for GFAP is at 50 kDa.



IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue

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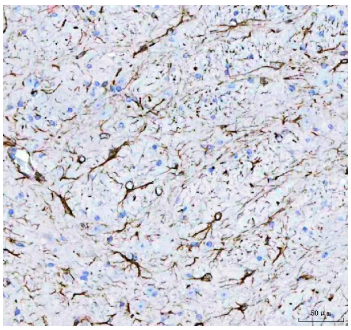
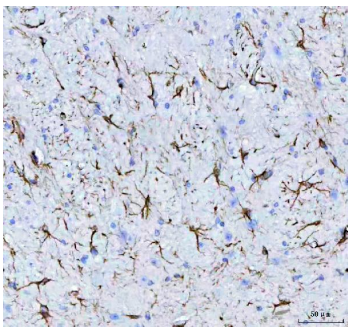
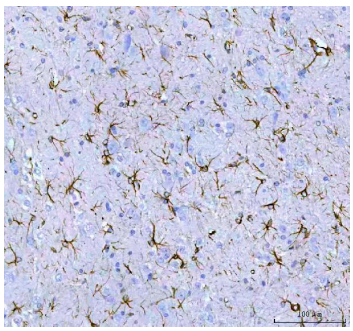


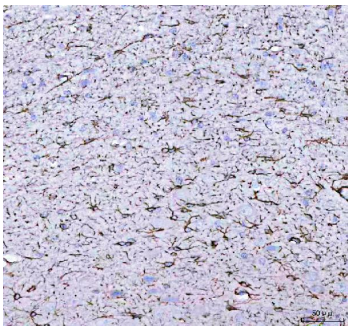
section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of pig brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

Immunofluorescence staining of differentiated BTSCs for GFAP (FITC, × 200) . 6A: DAPI. 6B:GFAP. 6C:Merge. It showed the differentiated BTSCs induced by ATRA were GFAP positive. Index in PubMed under a CC BY license. PMID: 20716331

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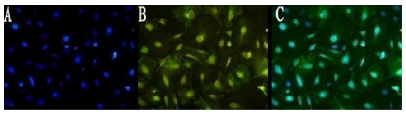
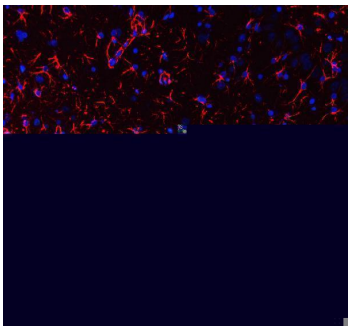
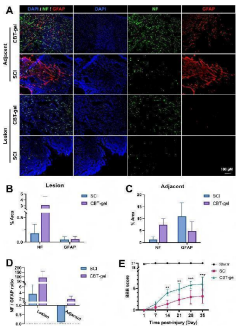


IF analysis of GFAP using anti-GFAP antibody (PB9082). GFAP was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-GFAP Antibody (PB9082) overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Evaluation of NF and GFAP in the spinal cord tissues and assessment of behavior function. (A) Representative fluorescent micrographs of immunofluorescence staining of NF (green) and GFAP (red) at Day 35 in spinal cord tissues of CBT-gel treatment and SCI group. Nuclei were stained by DAPI (Blue). (B–D) Tissues from the lesion epicenter (B) and adjacent (C) regions were quantified for positive areas of NF and GFAP, and the NF/GFAP ratios were calculated (D) . NF/GFAP ratio = (NF + area)/(GFAP + area in same region). (E) BBB scores of the animals during the 35-day recovery. Data are presented as mean and SD (n = 6–8). Statistical analysis was assessed by Mann-Whitney U test *p < 0.05, **p < 0.01, ***p < 0.001.Index in PubMed under a CC BY license. PMID: 40964438

## 137 Publications Citing This Product

1. PubMed ID: 10.4103/1673-5374.286973, Effect of electroacupuncture on glial fibrillary acidic protein and nerve growth factor in the hippocampus of rats with hyperlipidemia and middle cerebral artery thrombus

2. PubMed ID: 10.4103/1673-5374.303045, Glucagon-like peptide-1/glucose-dependent insulinotropic polypeptide dual receptor agonist DA-CH5 is superior to exendin-4 in protecting neurons in the 6-hydroxydopamine rat Parkinson model

3. PubMed ID: 10.1186/1756-9966-29-113, Effect of all-trans retinoic acid on the proliferation and differentiation of brain tumor stem cells

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