BOSTER BIOLOGICAL TECHNOLOGY
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Anti-GFAP Antibody Picoband® (monoclonal, 3F2)

Catalog Number: M00213-8

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.

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Overview

Product Name	Anti-GFAP Antibody Picoband® (monoclonal, 3F2)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-GFAP Antibody Picoband® (monoclonal, 3F2) catalog # M00213-8. Tested in IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. 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	Monoclonal 3F2
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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	Mouse
Uniprot ID	P14136

Technical Details

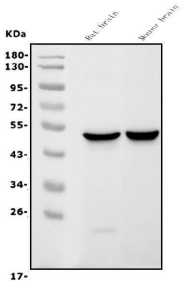
Immunogen	E.coli-derived human GFAP recombinant protein (Position: Q93-M432). Human GFAP shares 94% amino acid (aa) sequence identity with both mouse and rat GFAP.

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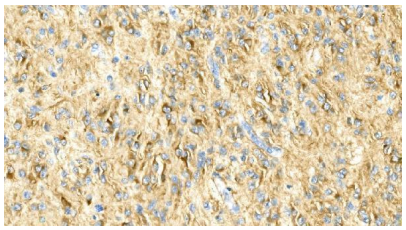
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti- Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG1
Form	Lyophilized
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, Mouse, rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunofluorescence, 5 ug/ml, Rat

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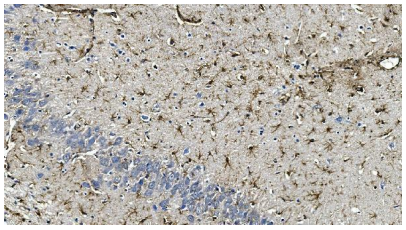
Anti-GFAP Antibody Picoband® (monoclonal, 3F2) (M00213-8) Images



Western blot analysis of GFAP using anti-GFAP antibody (M00213-8). 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 50ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-GFAP antigen affinity purified monoclonal antibody (Catalog # M00213-8) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for GFAP at approximately 50KD. The expected band size for GFAP is at 50KD.



IHC analysis of GFAP using anti-GFAP antibody (M00213-8). GFAP was detected in paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-GFAP Antibody (M00213-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.



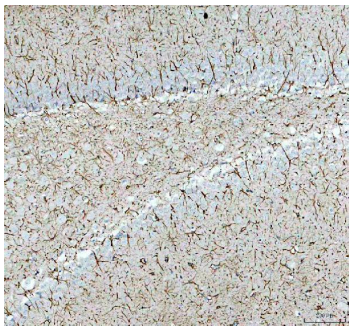
IHC analysis of GFAP using anti-GFAP antibody (M00213-8). GFAP was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-GFAP Antibody (M00213-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

IHC analysis of GFAP using anti-GFAP antibody (M00213-8). GFAP was detected in a paraffin-embedded section of rat cerebral cortex 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 1 ug/ml mouse anti-GFAP Antibody (M00213-8) overnight at 4°C.

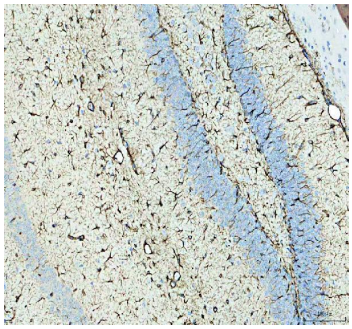
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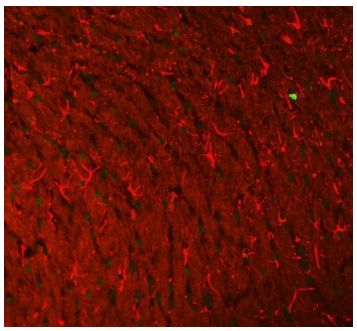
Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.



IHC analysis of GFAP using anti-GFAP antibody (M00213-8). GFAP was detected in a paraffin-embedded section of rat hippocampus 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 1 ug/ml mouse anti-GFAP Antibody (M00213-8) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.



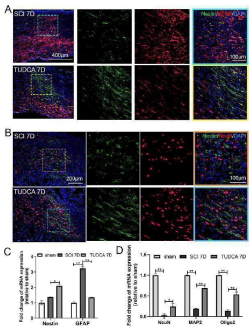
IHC analysis of GFAP using anti-GFAP antibody (M00213-8). GFAP was detected in a paraffin-embedded section of mouse hippocampus tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml mouse anti-GFAP Antibody (M00213-8) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.



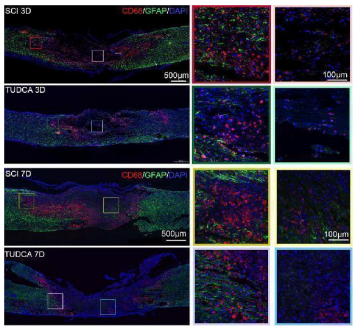
IF analysis of Histone H3 and GFAP using anti-Histone H3 antibody (A12477-2) and anti-GFAP antibody (M00213-8). Histone H3 and GFAP was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-Histone H3 antibody (A12477-2) and mouse anti-GFAP antibody (M00213-8) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127), Cy3 Conjugated Goat Anti-Mouse IgG (BA1031) was used as secondary antibody at 1:100 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.

TUDCA promoted neuron regeneration along endogenous NSCs migration at day 7 after SCI. (A) Co-

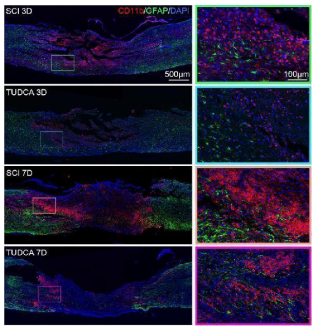
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immunofluorescence showed endogenous NSCs (Nestin, green) and reactive astrocytes (GFAP, red) at the margin of the lesion site at day 7 after SCI. (B) Endogenous NSCs (Nestin, green) and neuron (NeuN, red) at the margin of the lesion site at day 7 after SCI. (C, D) Quantitative polymerase chain reaction (qPCR) showing the expression of Nestin, GFAP, NeuN, MAP2 and Oligo 2 at day 7 after SCI. All experiments were performed in triplicated and data were presented means ± SEM, n = 3 per group. *P < 0.05, **P < 0.01.Index in PubMed under a CC BY license. PMID: 40276612



TUDCA regulated macrophages and reactive astrocytes distribution. Co-immunofluorescence images showed macrophages (CD68, red) and reactive astrocytes (GFAP, green) at day 3 and day 7 after SCI.Index in PubMed under a CC BY license. PMID: 40276612



TUDCA regulated monocytes distribution and impacted glial scar formation. Co-immunofluorescence images showed reactive astrocytes (GFAP, green) and monocytes (CD11b, red) at day 3 and day 7 after SCI.Index in PubMed under a CC BY license. PMID: 40276612

44 Publications Citing This Product

1. PubMed ID: 10.3892/ijo.2014.2448, beta-elemene inhibits stemness, promotes differentiation and impairs chemoresistance to temozolomide in glioblastoma stem-like cells

2. PubMed ID: 10.1002/syn.21725, Decreased expression of Gab2 in patients with temporal lobe epilepsy and pilocarpine-induced rat model

3. PubMed ID: 10.1007/s12031-015-0630-6, Elevated Expression of the Delta-Subunit of Epithelial Sodium Channel in Temporal Lobe Epilepsy Patients and Rat Model

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