

Anti-GFAP Antibody

Catalog Number: PA1239

About GFAP

Glial fibrillary acidic protein (GFAP) is an intermediate-filament (IF) protein that is highly specific for cells of astroglial lineage, although its tissue-specific role is speculative. GFAP has been located in rat kidney glomeruli and peritubular fibroblasts, leydig cells of testis, skin keratinocytes, osteocytes of bones, chondrocytes of epiglottis, bronchus, and stellate-shaped cells of the pancreas and liver. Its expression is essential for normal white matter architecture and blood-brain barrier integrity, and its absence leads to late-onset CNS dysmyelination. GFAP has also been shown to play a role in mitosis by adjusting the filament network present in the cell. During mitosis, there is an increase in the amount of phosphorylated GFAP, and a movement of this modified protein to the cleavage furrow.

Overview

Product Name	Anti-GFAP Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-GFAP Antibody catalog # PA1239. Tested in IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IF, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg NaN ₃ .
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

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human GFAP, identical to the related rat sequence, and different from the related mouse sequence by two amino acids.
Predicted Reactive Species	Chicken
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western 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	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Rat, Mouse, By Heat</p> <p>Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat</p> <p>Immunofluorescence, 2ug/ml, Mouse</p>

Anti-GFAP Antibody (PA1239) Images

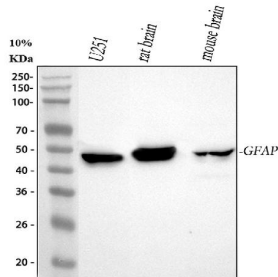


Figure 1. Western blot analysis of GFAP using anti-GFAP antibody (PA1239).

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: rat brain tissue lysates,

Lane 3: 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 # PA1239) 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.

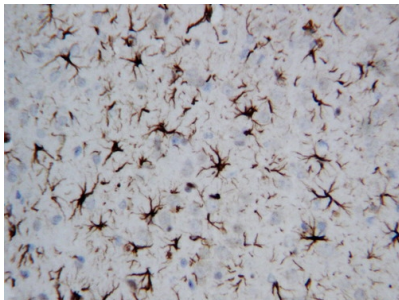


Figure 2. IHC analysis of GFAP using anti-GFAP antibody (PA1239).

GFAP was detected in paraffin-embedded section of rat brain tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GFAP Antibody (PA1239) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

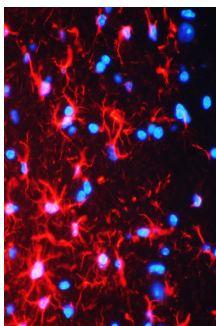


Figure 3. IF analysis of GFAP using anti-GFAP antibody (PA1239).

GFAP was detected in paraffin-embedded section of mouse brain tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/mL rabbit anti-GFAP Antibody (PA1239) overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) 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.

1. PubMed ID: , OLIG2 Drives Abnormal Neurodevelopmental Phenotypes in Human iPSC-Based Organoid and Chimeric Mouse Models of Down Syndrome

2. PubMed ID: 33966147, Xiang Z, Jiang X, Ji R, Yuan H. Enhanced expression of P2X4 purinoceptors in pyramidal neurons of the rat hippocampal CA1 region may be involved in ischemia-reperfusion injury. Purinergic Signal. 2021 May 9. doi:10.1007/s11302-021-09780-z. Epub ahead of print. PMID: 33966147.

3. PubMed ID: 32345781, Xiang S, Zhao D, Hao H, Wang XU, Li L, Yang T. Alpha-Helical protein absorption at post-traumatic epileptic foci monitored by Fourier transform infrared mapping. J Biosci. 2020;45:55. PMID: 32345781.

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