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Anti-Myelin Basic Protein/MBP Antibody Picoband®

Catalog Number: PA1050

About MBP

Myelin basic protein (MBP) is a major constituent of the myelin sheath of oligodendrocytes and Schwann cells in the central nervous system and the peripheral nervous system, respectively. It is most abundant in hemopoietic system and contains seven exons distributed over 32-34 kb. MBP isolated from MS brain may differ in charge microheterogeneity which would affect antigenic determinants. MBP is mapped to chromosome 18q22-23. Failure in this gene expression would be correlated in the central white matter with extrapyramidal system degeneration signs. Moreover, it is a candidate autoantigen in the disease multiple sclerosis.

Overview

Product Name	Anti-Myelin Basic Protein/MBP Antibody Picoband®
Reactive Species	Human, Mouse, Pig, Rat
Description	Boster Bio Anti-Myelin Basic Protein/MBP Antibody catalog # PA1050. 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 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
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	P02686

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Myelin Basic Protein, identical to the related rat and mouse sequences.
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

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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), 2-5ug/ml, Human, Mouse, Rat, Pig Immunofluorescence, 5-10ug/ml, Human, Mouse, Rat

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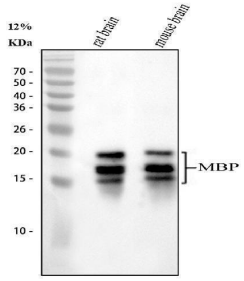
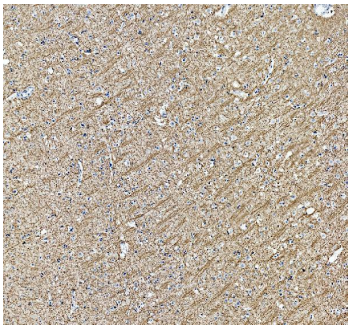
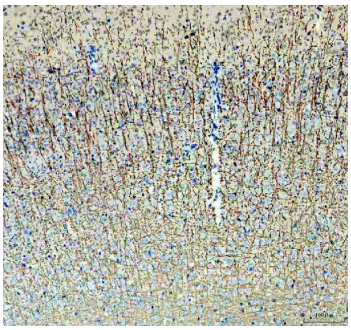
Anti-Myelin Basic Protein/MBP Antibody Picoband® (PA1050) Images



Western blot analysis of MBP using anti-MBP antibody (PA1050). Electrophoresis was performed on a 13% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug 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 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-MBP antigen affinity purified polyclonal antibody (PA1050) 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 (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for MBP at approximately 15-22 kDa. The expected band size for MBP is at 33 kDa.



IHC analysis of MBP using anti-MBP antibody (PA1050). MBP 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-MBP Antibody (PA1050) 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.



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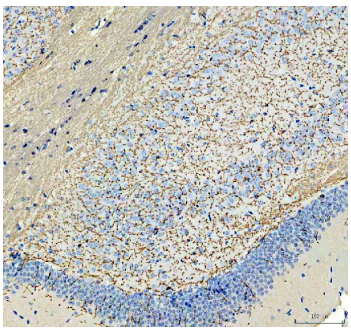
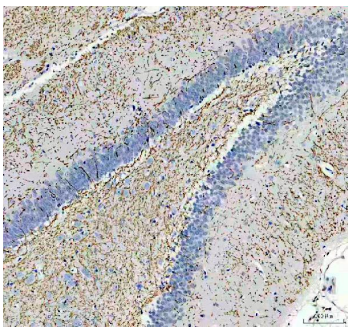
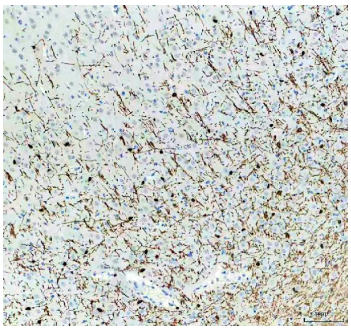


IHC analysis of MBP using anti-MBP antibody (PA1050). MBP was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MBP Antibody (PA1050) 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 MBP using anti-MBP antibody (PA1050). MBP 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-MBP Antibody (PA1050) 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 MBP using anti-MBP antibody (PA1050). MBP 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-MBP Antibody (PA1050) 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.

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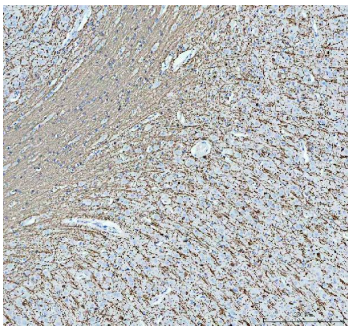

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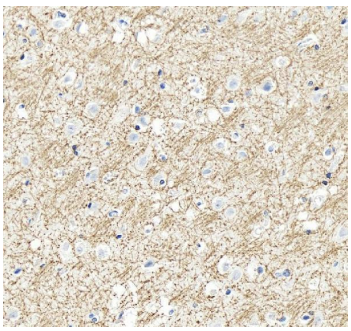
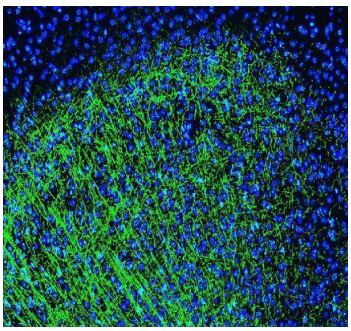
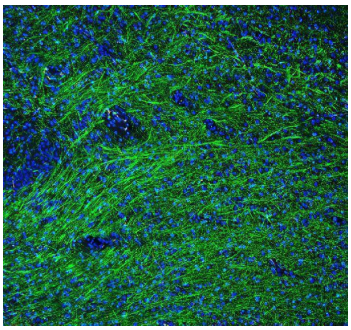


IHC analysis of Myelin basic protein/MBP using anti-Myelin basic protein/MBP antibody (PA1050). Myelin basic protein/MBP was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Myelin basic protein/MBP Antibody (PA1050) 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.



IF analysis of MBP using anti-MBP antibody (PA1050). MBP 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 5 ug/mL rabbit anti-MBP Antibody (PA1050) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.



IF analysis of MBP using anti-MBP antibody (PA1050). MBP 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-MBP Antibody (PA1050) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.

IF analysis of MBP using anti-MBP antibody (PA1050). MBP 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

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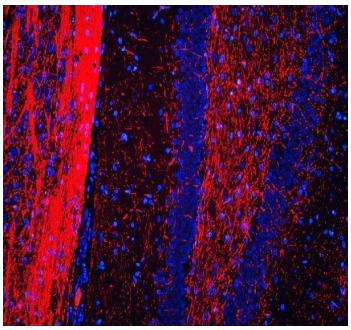
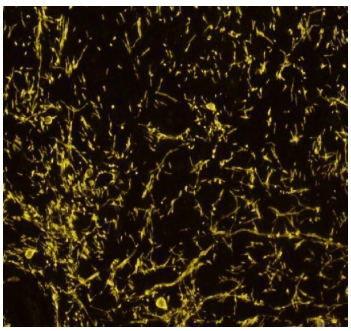
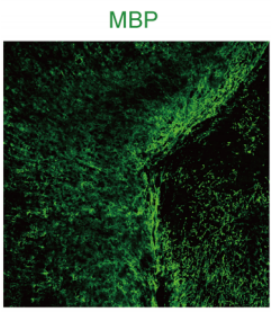


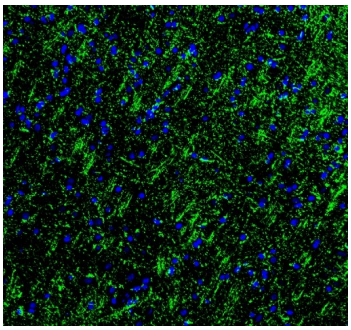
section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-MBP Antibody (PA1050) overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



IF analysis of MBP using anti-MBP antibody (PA1050). MBP 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-MBP Antibody (PA1050) overnight at 4°C. HRP Conjugated Goat Anti-Rabbit IgG (BA1054) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Tyramide signal amplification was performed using TSA 570 reagent at 1:200 dilution at room temperature for 10 minutes. Fluorescence signals were visualized using a fluorescence microscope with filter sets appropriate for TSA 570 and DAPI.



IF analysis of MBP using anti-MBP antibody (PA1050). ACAD9 was detected in a Frozen section of mouse spinal cord tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 3% BSA. The tissue section was then incubated with 1:100 rabbit anti-MBP Antibody (PA1050) overnight at 4°C. CY3-conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a laser focol.



IF analysis of MBP using anti-MBP antibody (PA1050). MBP 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 10 ug/mL rabbit anti-MBP Antibody (PA1050) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.

BBR efficacy in reducing glial activation and the secretion of inflammatory cytokines in the hippocampus following anaesthesia and surgical interventions. (A) Utilises immunofluorescence staining to measure expression levels of GFAP across hippocampal regions CA1, CA3 and dentate

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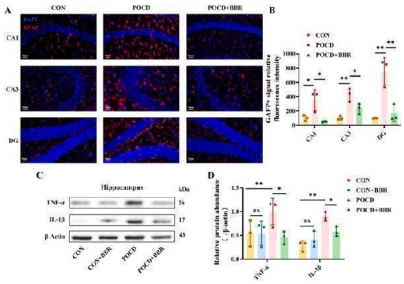
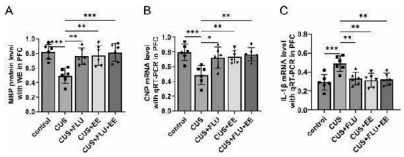
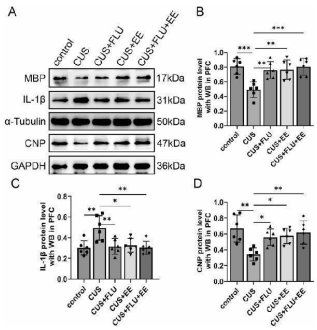


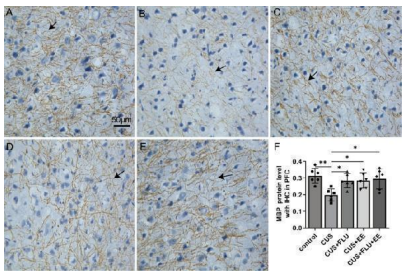
gyrus (DG). Magnification: 400×. Scale bar = 50 um. (B) Quantification of the GFAP-positive fluorescence intensity in CA1, CA3 and DG areas. (C, D) Display the results of western blot analyses detailing the relative concentrations of TNF-alpha and IL-1beta proteins in the hippocampus. Statistical values are expressed as mean ± SD, n = 3, significance indicated by * p



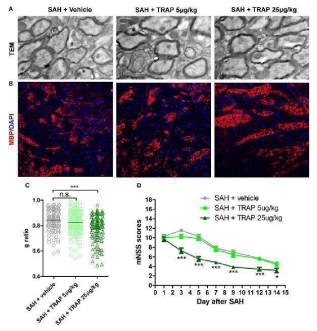
Post-treatment mRNA expression levels of MBP, CNP, and IL-1beta in PFC. A Post-treatment mRNA level of MBP with qRT-PCR; B . Post-treatment mRNA level of CNP with qRT-PCR; C . Post-treatment mRNA level of IL-1beta with qRT-PCR; Significant differences were revealed with * P



Post-treatment protein expression levels of MBP, CNP, and IL-1betawith western-blot in PFC. A Western blot bands of MBP, CNP, and IL-1betain PFC; B . Quantitative Analysis of MBP Protein by western blot; C . Quantitative Analysis of IL-1beta Protein by western blot; D . Quantitative Analysis of CNP Protein by western blot. Significant differences were revealed with * P



Post-treatment immunostaining intensity of MBP protein with immunohistochemistry in medial PFC. A MBP protein in the control group; B . MBP protein in the CUS group; C . MBP protein in the CUS + FLU group; D . MBP protein in the CUS + EEgroup; E . MBP protein in the CUS + FLU + EE group. F . Immunohistochemical Quantification of MBP Protein in medial PFC. All scale bars represent 50 um; “→”: positive staining in representative medial PFC. Significant differences were revealed with * P



Thrombin receptor antagonist peptide promoted remyelination and neural functional recovery after subarachnoid hemorrhage (SAH). (A,B) Representative images of transmission electron microscopy and myelin basic protein (MBP) expression at 3 days after SAH are shown. Scale bar = 20 μm. (C) Respective myelin g -ratios, n = 125 for each group. (D) Respective modified neurological severity scale (mNSS) scores in each group at 1, 3, 5, 7, 9, 12, and 14 days after SAH, n = 10 for each group. The data are presented as the mean ± SEM. * P < 0.05 versus SAH + vehicle group, *** P < 0.001 versus SAH + vehicle group. n.s. indicates no significance.Index in PubMed under a CC BY license. PMID: 29922213

17 Publications Citing This Product

1. PubMed ID: 10.1016/j.celrep.2015.01.037, Focal MMP-2 and MMP-9 Activity at the Blood-Brain Barrier Promotes Chemokine-Induced

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Leukocyte Migration

2. PubMed ID: 10.1016/j.brainresbull.2020.10.015, [Met5]-enkephalin preserves diffusion metrics in EAE mice

3. PubMed ID: 32515838, Meng FW,Jing XN,Song GH,Jie LL,Shen FF.Prox1 induces new lymphatic vessel formation and promotes nerve reconstruction in a mouse model of sciatic nerve crush injury.J Anat.2020 Nov;237(5):933-940.doi: 10.1111/joa.13247.Epub 2020 Jun 9.PMID:32515838;PMCID:

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Anti-Myelin Basic Protein/MBP Antibody

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