abcam

Product datasheet

Anti-Myelin Basic Protein antibody [EPR21188] ab218011

Recombinant RabMAb

4 Abreviews 18 References 7 Images

Overview

Product name	Anti-Myelin Basic Protein antibody [EPR21188]
Description	Rabbit monoclonal [EPR21188] to Myelin Basic Protein
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P, IHC-Fr **Unsuitable for:** ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse brain, cerebral cortex and midbrain tissue lysates; rat cerebral cortex, cerebellum and brain tissue lysates; human cerebellum and brain cortex tissue lysates. IHC-P: Human cerebrum tissue; mouse brain tissue; rat brain tissue; IHC-Fr: Mouse brain (cerebrum) tissue; rat brain (cerebrum) tissue.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR21188
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab218011 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ **(1)**	1/1000. Detects a band of approximately 14-21.5 kDa (predicted molecular weight: 33 kDa).
IHC-P		1/5000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IHC-Fr		1/5000. Perform heat-mediated antigen retrieval by using **ab94681** (Tris-EDTA buffer, pH 9.0)

Application notes Is unsuitable for ICC/IF.

Target

Function The classic group of MBP isoforms (isoform 4-isoform 14) are with PLP the most abundant protein components of the myelin membrane in the CNS. They have a role in both its formation and stabilization. The smaller isoforms might have an important role in remyelination of denuded axons in multiple sclerosis. The non-classic group of MBP isoforms (isoform 1-isoform 3/Golli-MBPs) may preferentially have a role in the early developing brain long before myelination, maybe as components of transcriptional complexes, and may also be involved in signaling pathways in T-cells and neural cells. Differential splicing events combined with optional post-translational modifications give a wide spectrum of isomers, with each of them potentially having a specialized function. Induces T-cell proliferation.

Tissue specificity MBP isoforms are found in both the central and the peripheral nervous system, whereas Golli-MBP isoforms are expressed in fetal thymus, spleen and spinal cord, as well as in cell lines derived from the immune system.

Involvement in disease Note=The reduction in the surface charge of citrullinated and/or methylated MBP could result in a weakened attachment to the myelin membrane. This mechanism could be operative in demyelinating diseases such as chronical multiple sclerosis (MS), and fulminating MS (Marburg disease).

Sequence similarities Belongs to the myelin basic protein family.

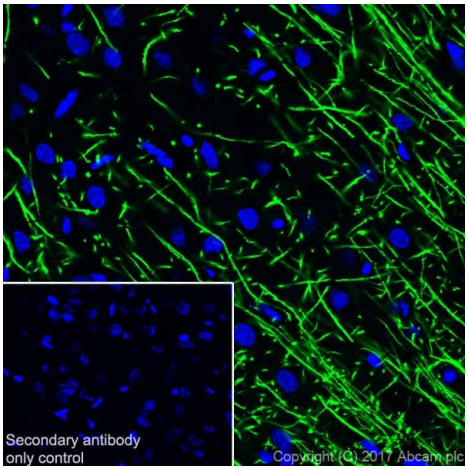
Developmental stage Expression begins abruptly in 14-16 week old fetuses. Even smaller isoforms seem to be produced during embryogenesis; some of these persisting in the adult. Isoform 4 expression is more evident at 16 weeks and its relative proportion declines thereafter.

Post-translational modifications Several charge isomers of MBP; C1 (the most cationic, least modified, and most abundant form), C2, C3, C4, C5, C6, C7, C8-A and C8-B (the least cationic form); are produced as a result of optional PTM, such as phosphorylation, deamidation of glutamine or asparagine, arginine

citrullination and methylation. C8-A and C8-B contain each two mass isoforms termed C8-A(H), C8-A(L), C8-B(H) and C8-B(L), (H) standing for higher and (L) for lower molecular weight. C3, C4 and C5 are phosphorylated. The ratio of methylated arginine residues decreases during aging, making the protein more cationic.
The N-terminal alanine is acetylated (isoform 3, isoform 4, isoform 5 and isoform 6).
Arg-241 was found to be 6% monomethylated and 60% symmetrically dimethylated.

Cellular localization Myelin membrane. Cytoplasmic side of myelin.

Images

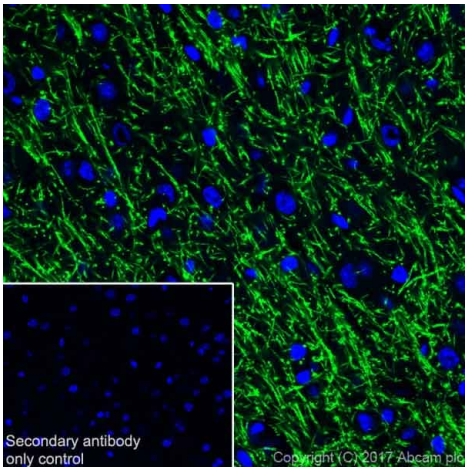


Immunohistochemistry (Frozen sections) - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen rat brain (cerebrum) tissue labeling Myelin Basic Protein with ab218011 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution (green). Positive staining in the axonal fiber tracts on rat cerebrum tissue section (PMID: 23144976) is observed. The nuclear counterstain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution.

Perform heat-mediated antigen retrieval by using **ab94681** (Tris-EDTA buffer, pH 9.0)



Immunohistochemistry (Frozen sections) - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen mouse brain (cerebrum) tissue labeling Myelin Basic Protein with ab218011 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution (green). Positive staining in the axonal fiber tracts on rat cerebrum tissue section (PMID: 23144976) is observed. The nuclear counterstain is DAPI (blue).

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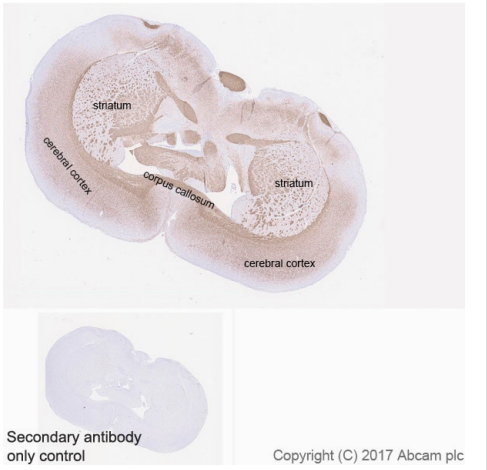
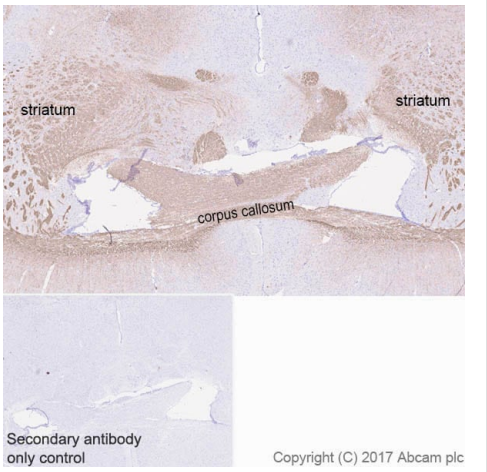


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Immunohistochemical analysis of paraffin-embedded rat brain tissue labeling Myelin Basic Protein with ab218011 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on rat brain (PMID: 23144976) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

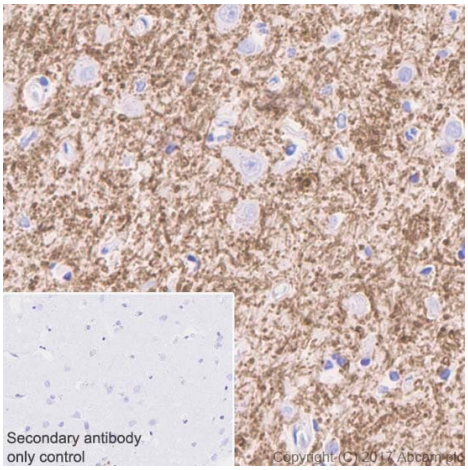


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Immunohistochemical analysis of paraffin-embedded mouse brain tissue labeling Myelin Basic Protein with ab218011 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on mouse brain (PMID: 23144976) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

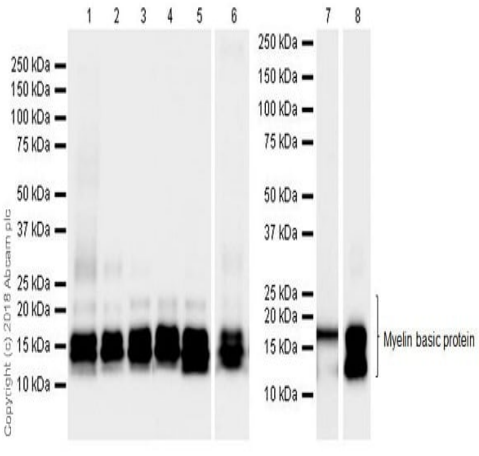


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Immunohistochemical analysis of paraffin-embedded human cerebrum tissue labeling Myelin Basic Protein with ab218011 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in human cerebrum (PMID: 22496821) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).



Western blot - Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

Lanes 1-6 : Anti-Myelin Basic Protein antibody [EPR21188] (ab218011) at 1/5000 dilution
Lanes 7-8 : Anti-Myelin Basic Protein antibody [EPR21188] (ab218011) at 1/1000 dilution

Lane 1 : Mouse brain tissue lysate
Lane 2 : Mouse cerebral cortex tissue lysate
Lane 3 : Mouse midbrain tissue lysate
Lane 4 : Rat cerebral cortex tissue lysate
Lane 5 : Rat cerebellum tissue lysate
Lane 6 : Rat brain tissue lysate
Lane 7 : Human cerebellum tissue lysate
Lane 8 : Human brain cortex tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
Lanes 1-6 : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at

1/100000 dilution
Lanes 7-8 : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 33 kDa
Observed band size: 14-21.5 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times.

Lanes 1-5 & 8: 15 seconds.

Lane 6: 7 seconds.

Lane 7: 32 seconds.

Anti-Myelin Basic Protein antibody [EPR21188] (ab218011)

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

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