abcam

ab270400

Anti-PMP22 antibody [EPR23112-110]

Anti-PMP22 antibody [EPR23112-110] (ab270400) is a rabbit monoclonal antibody detecting PMP22 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23112-110
Purification technique	Affinity purification Protein A
Concentration	0.588 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/32000

Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/600
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PMP22

Function	Might be involved in growth regulation, and in myelinization in the peripheral nervous system.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-PMP22 antibody [EPR23112-110] (ab270400) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of PMP22?
Anti-PMP22 [EPR23112-110] (ab270400) specifically detects a band for PMP22 (UniProt: Q01453) at a molecular weight of 18kDa.

Other related products
We have a range of other formats of antibody clone [EPR23112-110] also available for your convenience: ab270400, Carrier free - ab270407, PE - ab306319, APC - ab306320, HRP - ab306321, Alkaline Phosphatase - ab308970, Alexa Fluor® 488 - ab309916, Alexa Fluor® 647 - ab310284, Alexa Fluor® 594 - ab310742, Alexa Fluor® 555 - ab312271, Alexa Fluor® 568 - ab312762, Alexa Fluor® 750 - ab321532

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The 'PMP22 protein' also known as Peripheral Myelin Protein 22 is an essential component of the myelin sheath in the peripheral nervous system. It has a molecular weight of approximately 22 kDa. The protein is highly expressed in Schwann cells which are responsible for forming myelin around peripheral nerves. PMP22 contains four transmembrane domains playing a role in its structural function in the membrane.
Biological function summary	The 'PMP22' serves an important role in maintaining the integrity and functionality of the myelin sheath contributing to efficient nerve conduction. It is not typically part of a complex but interacts with other myelin proteins to support myelin compaction and stability. The protein's presence affects the cell cycle and myelination process important for the normal functioning of the peripheral nervous system.
Pathways	'PMP22 protein' plays roles in the Schwann cell differentiation and myelination pathways. It maintains correct peripheral nerve structure and function with connections to proteins such as MPZ (Myelin Protein Zero) which are also integral for proper nerve insulation. There are specific pathways where PMP22 downregulation or overexpression impacts the normal myelination cycle significant for peripheral nerve health.
Associated diseases and disorders	'PMP 22' mutations or overexpression relate to Charcot-Marie-Tooth disease type 1A and Hereditary Neuropathy with Liability to Pressure Palsies (HNPP). These conditions arise from gene dosage changes affecting nerve function where altered PMP22 protein levels lead to defective myelin formation. Interaction between PMP22 and proteins like connexin 32 shows further ties to demyelinating neuropathies emphasizing the gene-protein network involved in these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

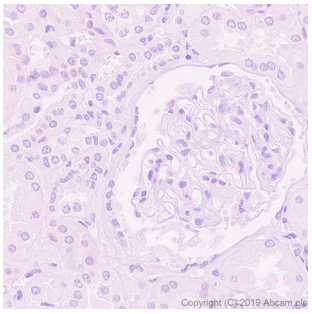
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images

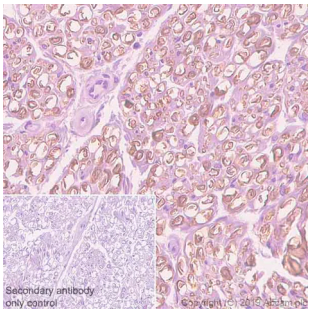


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PMP22 antibody [EPR23112-110] (ab270400)

PMP22 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PMP22 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling PMP22 with ab270400 at 1/32000 dilution (0.018 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).
Negative control: negative staining in human kidney (PMID:7649472).

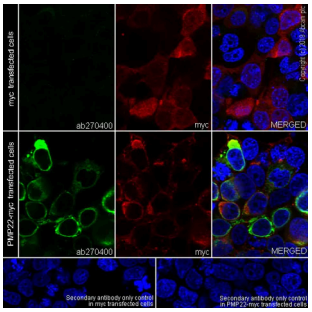
The section was incubated with ab270400 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PMP22 antibody [EPR23112-110] (ab270400)

PMP22 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PMP22 antibody

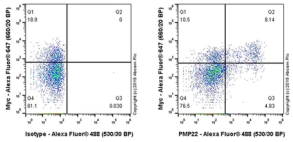
Immunohistochemical analysis of paraffin-embedded Human nerve tissue labeling PMP22 with ab270400 at 1/32000 dilution (0.018 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in Schwann cells of human nerve (PMID:7691737) is observed. The section was incubated with ab270400 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



Immunocytochemistry/ Immunofluorescence - Anti-PMP22 antibody [EPR23112-110] (ab270400)

PMP22 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PMP22 antibody

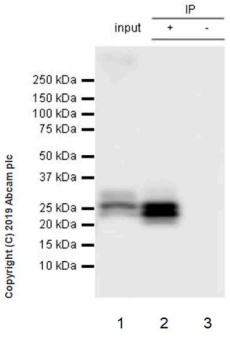
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T cells transfected with a myc-tagged PMP22 expression construct. cells labelling PMP22 with ab270400 at 1/250 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in 293T cells transfected with a myc-tagged PMP22 expression construct is observed. 2233S Myc-Tag (9B11) Mouse mAb (Alexa Fluor® 647 Conjugate) was used to counterstain tubulin at 1/100 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Flow Cytometry - Anti-PMP22 antibody [EPR23112-110] (ab270400)

PMP22 Flow Cytometry staining using rabbit Anti-PMP22 antibody

Flow cytometric analysis of 2% paraformaldehyde fixed 0.1% Tween-20 permeabilized 293T transfected with myc-his tagged PMP22 overexpression construct cells labelling PMP22 with ab270400 at 1/600 dilution (0.1 ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Cells were surface stained with isotype control or ab270400. Then fixed with 2% PFA for 10min followed by intracellularly stained with anti-myc tag conjugated to Alexa Fluor® 647.



Immunoprecipitation - Anti-PMP22 antibody [EPR23112-110] (ab270400)

PMP22 was immunoprecipitated from 0.35 mg 293T (human embryonic kidney epithelial cell) transfected with PMP22 (WT) expression vector containing a myc-His-tag®, whole cell lysate with ab270400 at 1/30 dilution (2 µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab270400 1/1000 dilution (0.58 µg/ml). VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: 293T cells transfected with PMP22 (WT) expression vector containing a myc-His-tag®, whole cell lysate 10 µg

Lane 2: ab270400 IP in 293T transfected with PMP22 (WT) expression vector containing a myc-His-tag®, whole cell lysate

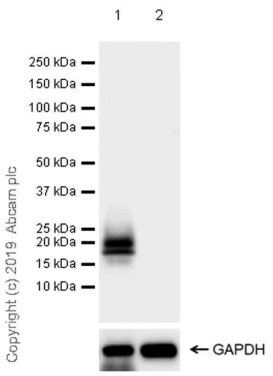
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab270400 in 293T transfected with PMP22 (WT) expression vector containing a myc-His-tag®, whole cell lysate. Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds

All lanes:
Immunoprecipitation - Anti-PMP22 antibody [EPR23112-110] (ab270400)

Predicted band size: 18 kDa

Observed band size: 25-22 kDa



Western blot - Anti-PMP22 antibody [EPR23112-110] (ab270400)

The expression profile observed is consistent with what has been described in the literature (PMID: 25429154; 7649472).
Negative control: Human brain (PMID: 7649472).
Blocking/diluting buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-PMP22 antibody [EPR23112-110] (ab270400) at 1/1000 dilution

Lane 1:
Human leg nerve tissue lysate at 20 µg

Lane 2:
Human brain tissue lysate at 20 µg

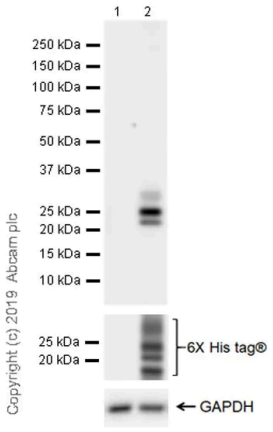
Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 18 kDa

Observed band size: 18 kDa, 22 kDa

Exposure time: 3s



Western blot - Anti-PMP22 antibody [EPR23112-110] (ab270400)

All lanes:
Western blot - Anti-PMP22 antibody [EPR23112-110] (ab270400) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) transfected with an empty vector (vector control) containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 2:
293T transfected with PMP22 (WT) expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 18 kDa

Observed band size: 18 kDa, 20 kDa

Exposure time: 15s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.