abcam

ab283284

Anti-TPOR/MPL antibody [EPR24566-47] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24566-47
Purification technique	Affinity purification Protein A
Concentration	1.022 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information MPL

Function	Receptor for thrombopoietin that regulates hematopoietic stem cell renewal, megakaryocyte differentiation, and platelet formation. Upon activation by THPO, induces rapid tyrosine phosphorylation and activation of JAK2, providing docking sites for many signaling proteins such as STAT5, SHIP/INPP5D, GRB2, SOS1 and PI3K (PubMed:15899890, PubMed:37633268). In turn, These signaling cascades lead to the proliferation, survival, and differentiation of megakaryocytes, ultimately leading to increased platelet production.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab283284 is the carrier-free version of ab283263.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The target TPOR/MPL also known as the MPL protein or Myeloproliferative Leukemia protein functions as a receptor for thrombopoietin (TPO). It is composed of 635 amino acids with a molecular weight of approximately 70 kDa. This protein is expressed primarily on the surface of hematopoietic progenitor cells megakaryocytes and platelets. The receptor a cell surface-bound protein plays a significant role by binding to TPO facilitating cellular signaling involved in cell proliferation and maturation.
Biological function summary	The TPOR/MPL protein promotes the growth and differentiation of multiple blood cell types through direct interactions with TPO. When TPO binds to MPL it triggers a signaling cascade essential for the regulation of platelet production and maintenance of hematopoiesis. This receptor forms part of a larger receptor complex that includes JAK2 protein kinase which further transduces signals for cell growth and survival. The engagement of JAK2 enhances the functional capability of MPL leading to the activation of various downstream effectors.
Pathways	The TPOR/MPL protein is central to the thrombopoietin signaling pathway facilitating the activation of downstream molecules like STAT3 and STAT5. These transcription factors activate gene expression critical for cell proliferation and survival. MPL is closely related to other hematopoietic receptors within the Jak-STAT pathway. The pathway is integral for hematopoietic stem cell function and involves interactions with proteins like EPO receptor which utilizes similar pathways for erythropoiesis.
Associated diseases and disorders	The TPOR/MPL protein is implicated in myeloproliferative disorders such as essential thrombocythemia and primary myelofibrosis. Mutations in the MPL gene can alter receptor function leading to uncontrolled cell proliferation. Such mutations often present in tandem with mutations in other proteins like JAK2 amplifying the disease processes. The inappropriate activation of the MPL signaling pathway results in excessive production of platelets or fibrosis within the bone marrow contributing significantly to disease phenotypes.

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.

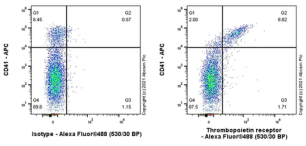
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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2 product images

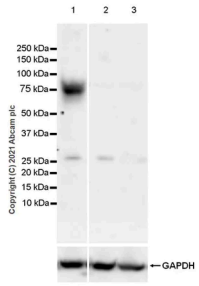


Flow Cytometry - Anti-TPOR/MPL antibody [EPR24566-47] - BSA and Azide free (ab283284)

TPOR/MPL Flow Cytometry staining using rabbit Anti-TPOR/MPL antibody

This data was developed using ab283263, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) cells labelling TPOR/MPL with ab283263 at 1/500 dilution (0.1 µg)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. Goat anti rabbit IgG (Alexa Fluor ® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG or ab283263. Then stained with anti-CD41 conjugated to APC.

Gated on viable cells.



Western blot - Anti-TPOR/MPL antibody [EPR24566-47] - BSA and Azide free (ab283284)

TPOR/MPL Western blot staining using rabbit Anti-TPOR/MPL antibody

This data was developed using ab283263, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/molecular weight observed is consistent with what has been described in the literature (PMID:19880496, 7689867, 23183425).

Negative control: Jurkat (PMID:7689867, 23183425); K-562 (PMID:7689867, 23183425).

Exposure time: 59 seconds.

All lanes:
Western blot - Anti-TPOR/MPL antibody [EPR24566-47] (ab283263) at 1/1000 dilution

Lane 1:
HEL (human erythroleukemia erythroblast) whole cell lysate at 20 µg

Lane 2:
Jurkat (human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 3:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 71 kDa

Observed band size: 80 kDa

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