abcam

ab289859

Anti-PTPN12 antibody [EPR25171-63]

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	EPR25171-63
Purification technique	Affinity purification Protein A
Concentration	0.553 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/200
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information PTPN12

Function	Dephosphorylates a range of proteins, and thereby regulates cellular signaling cascades (PubMed:18559503). Dephosphorylates cellular tyrosine kinases, such as ERBB2 and PTK2B/PYK2, and thereby regulates signaling via ERBB2 and PTK2B/PYK2 (PubMed:17329398, PubMed:27134172). Selectively dephosphorylates ERBB2 phosphorylated at 'Tyr-1112', 'Tyr-1196', and/or 'Tyr-1248' (PubMed:27134172).

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

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.

Supplementary info

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

Activity summary	The Protein Tyrosine Phosphatase Non-Receptor Type 12 (PTPN12) often referred to as PTP-PeST is an enzyme that plays a significant mechanical role within cells. PTPN12 is part of the protein tyrosine phosphatase (PTP) family which is responsible for removing phosphate groups from phosphotyrosine residues on proteins. This activity regulates many cellular processes including growth and differentiation. PTPN12 has a molecular mass of approximately 86 kDa. It is ubiquitously expressed in various tissues but shows higher expression in hematopoietic cells.
Biological function summary	As a non-receptor type phosphatase PTPN12 partners with several proteins to perform essential cellular functions. It interacts with multiple components in the cell participating in the assembly of protein complexes that manage cytoskeletal dynamics and cell movement. PTPN12 influences signal transduction pathways by interacting with adapter proteins such as p130Cas and Paxillin which are vital for cell adhesion and migration. It also plays a role in maintaining cellular homeostasis by controlling signaling cascades that prevent excessive cell proliferation.
Pathways	PTPN12 takes part in critical signal transduction networks most notably the Integrin signaling and RhoA pathways. In the Integrin pathway PTPN12 negatively regulates signaling by dephosphorylating focal adhesion-associated proteins. This regulation affects cell attachment to the extracellular matrix and cell motility. The interaction of PTPN12 with proteins such as Src and FAK (Focal Adhesion Kinase)

	illustrates its involvement in these processes. In the RhoA pathway PTPN12 influences cytoskeletal rearrangement and cell shape regulation linking to its role in cell migration.
Associated diseases and disorders	Disruptions in PTPN12 function associate with cancer progression such as breast cancer and inflammatory disorders. In breast cancer physiological studies indicate that PTPN12 acts as a tumor suppressor. Its loss or reduced activity may lead to unregulated cell proliferation and metastasis by failing to restrain pathways involving Src and FAK. In inflammatory disorders altered activities of PTPN12 can affect immune cell function contributing to conditions like rheumatoid arthritis. The enzyme's dysfunction can amplify inflammatory signals through faults in the regulation of immune cells linking PTPN12 to increased disease susceptibility.

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

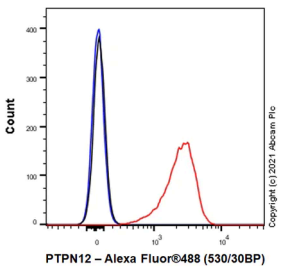
We do not recommend this combination. It is not covered by our product promise.

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.

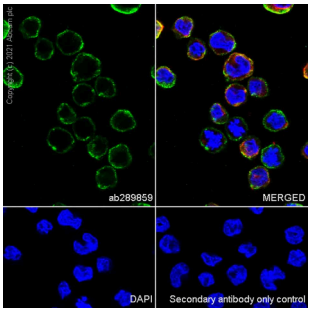
5 product images



Flow Cytometry (Intracellular) - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

PTPN12 Flow Cytometry (Intracellular) staining using rabbit Anti-PTPN12 antibody

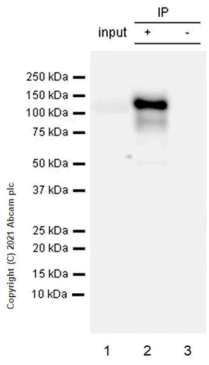
Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilised THP-1 (human monocytic leukemia monocyte cell line) cells labelling PTPN12 with ab289859 at 1/500 dilution (Red) compared with a Rabbit IgG, monoclonal - Isotype Control (ab172730) (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

PTPN12 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PTPN12 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized THP-1 (human monocytic leukemia monocyte) cells labeling PTPN12 with ab289859 at 1/200 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed secondary antibody at 1/1000 dilution (Green). Confocal image showing membranous and cytoplasmic staining in THP-1 cell line. The nuclear counterstain is DAPI (Blue). Tubulin is labeled using ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) at 1/200 dilution (Red).
Secondary antibody only control: Used PBS instead of primary antibody, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed secondary antibody at 1/1000 dilution.



Immunoprecipitation - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

PTPN12 was immunoprecipitated from THP-1 (human monocytic leukemia monocyte) whole cell lysate with ab289859 at 1/30 dilution (2 µg in 0.35 mg lysate). VeriBlot for IP secondary antibody(HRP) (ab131366) was used as secondary antibody at 1/5000 dilution.
Lane 1: THP-1 (human monocytic leukemia monocyte), whole cell lysate 10 µg (Input)

Lane 2: ab289859 IP in THP-1 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab289859 in THP-1 whole cell lysate

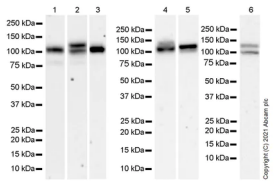
Blocking and dilution buffer and concentration: 5% NFDM/TBST
Exposure time: 5 seconds

All lanes:
Immunoprecipitation - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

Predicted band size: 88 kDa

Observed band size: 110-125 kDa

Exposure time: 5s



Western blot - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

PTPN12 Western blot staining using rabbit Anti-PTPN12 antibody

5% NFDM/TBST was used as a blocking and diluting buffer.
Exposure times:

Lanes 1 - 2: 125 seconds
Lane 3: 92 seconds
Lanes 4 - 6: 3 minutes

Lysates were made fresh and used immediately to minimize protein degradation.
The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID:10625692).

All lanes:
Western blot - Anti-PTPN12 antibody [EPR25171-63] (ab289859) at 1/1000 dilution

Lane 1:
U937 (human histiocytic lymphoma monocyte), whole cell lysate at 20 µg

Lane 2:
HeLa (human epithelial cell line from cervix adenocarcinoma), whole cell lysate at 20 µg

Lane 3:
THP-1 (human monocytic leukemia monocyte), whole cell lysate at 20 µg

Lane 4:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 20 µg

Lane 5:
C6 (rat glial tumor glial cell), whole cell lysate at 20 µg

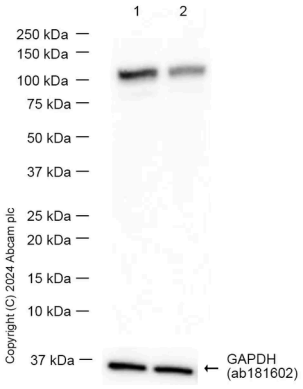
Lane 6:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 88 kDa

Observed band size: 110-125 kDa



Western blot - Anti-PTPN12 antibody [EPR25171-63] (ab289859)

Blocking and diluting buffer: 5% NFDM/TBST.

ab181602 was used as a loading control at 1/1000000 dilution.

All lanes:
Western blot - Anti-PTPN12 antibody [EPR25171-63] (ab289859) at 1/1000 dilution

Lane 1:
THP-1 (human monocytic leukemia monocyte) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
THP-1 transfected with siRNA specifically targeting PTPN12 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: 88 kDa

Observed band size: 110 - 125 kDa

Exposure time: 20s

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