abcam

ab314315

Anti-ENPP2/ATX antibody [EPR27348-30]

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	EPR27348-30
Purification technique	Affinity purification Protein A
Concentration	0.528 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human

Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information ENPP2

Function

Secreted lysophospholipase D that hydrolyzes lysophospholipids to produce the signaling molecule lysophosphatidic acid (LPA) in extracellular fluids (PubMed:12354767, PubMed:14500380, PubMed:15769751, PubMed:26371182, PubMed:27754931). Its major substrate is lysophosphatidylcholine (PubMed:12176993, PubMed:14500380, PubMed:27754931). Can also act on sphingosylphosphorylcholine producing sphingosine-1-phosphate, a modulator of

cell motility (PubMed:14500380). Can hydrolyze, in vitro, bis-pNPP, to some extent pNP-TMP, and barely ATP (PubMed:12176993, PubMed:15769751). Involved in several motility-related processes such as angiogenesis and neurite outgrowth. Acts as an angiogenic factor by stimulating migration of smooth muscle cells and microtubule formation (PubMed:11559573). Stimulates migration of melanoma cells, probably via a pertussis toxin-sensitive G protein (PubMed:1733949). May have a role in induction of parturition (PubMed:12176993). Possible involvement in cell proliferation and adipose tissue development (Probable). Required for LPA production in activated platelets, cleaves the sn-1 lysophospholipids to generate sn-1 lysophosphatidic acids containing predominantly 18:2 and 20:4 fatty acids (PubMed:21393252). Shows a preference for the sn-1 to the sn-2 isomer of 1-O-alkyl-sn-glycero-3-phosphocholine (lyso-PAF) (PubMed:21393252).

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 ENPP2 protein also known as autotaxin (ATX) with a mass of approximately 102 kDa mainly manifests as a secreted enzyme with lysophospholipase D activity. ENPP2 or ATX-001 widely expresses in various tissues predominantly in the brain adipose tissue and placenta. It catalyzes the hydrolysis of lysophosphatidylcholine to lysophosphatidic acid (LPA) and choline playing an important role in LPA signaling. ENPP2/ATX-001 is a valuable component in the study of lipid signaling pathways.
Biological function summary	ATX protein influences cell proliferation migration and survival. It does not operate as part of a complex but directly impacts the biological processes previously mentioned due to its enzymatic function. It acts significantly during embryonic development and wound healing. The products of its catalysis LPA engage in various signaling pathways essential for these processes.
Pathways	ENPP2 integrates into the lysophospholipid and phospholipase pathways. It plays an important role in the LPA receptor signaling pathway contributing to various physiological and pathological processes. Proteins related to ENPP2 through these pathways include LPA receptors such as LPAR1 and LPAR2 with which it interacts closely to mediate cell signaling roles and phospholipase A2 which provides substrate for its enzymatic activity.
Associated diseases and disorders	ENPP2 links strongly with cancer and fibrotic diseases. Its enzymatic activity generates LPA which can enhance tumor progression by promoting cell proliferation and migration. This activity associates ENPP2 with oncogenic processes. Additionally LPA signaling stands connected to fibrotic disorders where it contributes to tissue remodeling and fibrosis. Its overactivity or dysregulation might result in such pathological states associating indirectly with growth factor proteins like TGFB1 which are involved in tissue fibrosis and cancer.

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

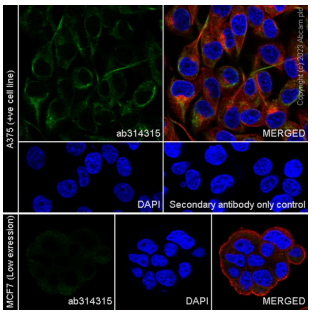
We do not recommend this combination. It is not covered by our product promise.

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



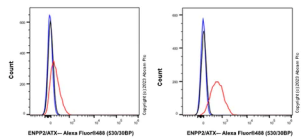
Immunocytochemistry/ Immunofluorescence - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized A375 (human malignant melanoma epithelial cell) cells labelling ENPP2/ATX with ab314315 at 1/50 (10.56 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in A375 cells and weak cytoplasmic staining in MCF7 cells. Low expression: MCF7 (PMID: 22140473). Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.

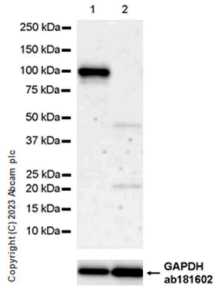


Flow Cytometry (Intracellular) - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized MCF7 (human breast adenocarcinoma epithelial cell, Left) / A375 (human malignant melanoma epithelial cell, Right) cells labelling ENPP2/ATX with ab314315 at 1/500 dilution (0.1 ug, Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Low expression: MCF7 (PMID: 22140473).



Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: skeletal muscle (PMID:8579579).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:

Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315) at 1/1000 dilution

Lane 1:
Human ovary cancer tissue lysate at 20 µg

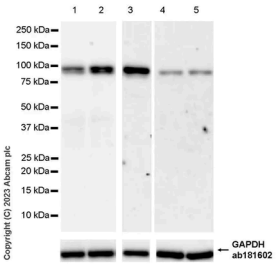
Lane 2:
Human skeletal muscle tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 100 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: thymus, testis (PMID:8579579);

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Exposure time: Lane 1-2: 48 seconds Lane 3-5: 180 seconds

All lanes:
Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315) at 1/1000 dilution

Lane 1:
Untreated MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
MCF7 treated with 300ng/ml BFA for 24 hour whole cell lysate at 20 µg

Lane 3:
Human placenta tissue lysate at 20 µg

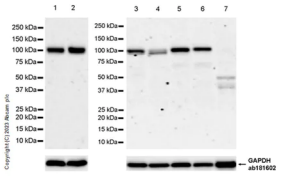
Lane 4:
Human thymus tissue lysate at 20 µg

Lane 5:
Human testis tissue lysate at 20 µg

Secondary

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

Observed band size: 100 kDa, 36 kDa



Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: skeletal muscle (PMID:8579579); MCF7 (PMID:22140473).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-ENPP2/ATX antibody [EPR27348-30] (ab314315) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
A375 (human malignant melanoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
Mouse placenta tissue lysate at 20 µg

Lane 6:
Mouse ovary tissue lysate at 20 µg

Lane 7:
Mouse skeletal muscle tissue lysate at 20 µg

Secondary

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

Observed band size: 100 kDa, 36 kDa

Exposure time: 180s

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