abcam

ab308454

Anti-ENPP3/B10 antibody [EPR27349-72] - 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	EPR27349-72
Purification technique	Affinity purification Protein A
Concentration	1.026 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Transfected cell line - Human, Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Transfected cell line - Human, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Transfected cell line - Human, Mouse, Rat
Dilution info	-

Notes	-

Target data

See full target information ENPP3

Function	Hydrolase that metabolizes extracellular nucleotides, including ATP, GTP, UTP and CTP (PubMed:29717535, PubMed:9344668). Also hydrolyzes extracellular 2',3'-cGAMP (cyclic GMP-AMP), a second messenger that activates TMEM173/STING and triggers type-I interferon production, and is therefore involved in the regulation of innate immune response (PubMed:38749434). 2',3'-cGAMP appears to be further processed to GMP, AMP and inorganic phosphate (PubMed:38749434). Limits mast cells and basophils response during inflammation and during the chronic phases of allergic responses by eliminating extracellular ATP, a signaling molecule activating these cells in an autocrine manner. Metabolizes extracellular ATP in the lumen of the small intestine, and thereby prevents ATP-induced apoptosis of intestinal plasmacytoid dendritic cells (By similarity). Has a broad specificity and can also hydrolyze UDP-GlcNAc into UMP and GlcNAc-1-phosphate and potentially several other intracellular nucleotide sugars, including UDP-GalNAc, CMP-NeuAc, GDP-Fuc, and UDP-GlcA. Thereby, could modulate glycan biosynthesis and protein glycosylation (By similarity). Can hydrolyze extracellular dinucleoside polyphosphates, including the vasoactive adenosine polyphosphates as well (PubMed:12846830). In addition, displays an alkaline phosphodiesterase activity in vitro (PubMed:11342463).

Storage

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

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.

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 ENPP3/B10 protein also known as Ectonucleotide Pyrophosphatase/Phosphodiesterase 3 is an enzyme that plays a role in nucleotide metabolism by hydrolyzing phosphodiester and phosphosulfate bonds. This protein has a molecular mass of around 100 kDa. ENPP3 is mainly expressed on the surface of epithelial cells and you find it in tissues like the kidney liver and lung. In some contexts immune cells such as mast cells also show its expression.
Biological function summary	ENPP3 regulates the availability of extracellular nucleotides and phosphate metabolites. It is not typically considered part of a larger complex and rather contributes to various processes independently. By modulating concentrations of these extracellular molecules ENPP3 impacts cell signaling and nucleotide homeostasis which can affect cell proliferation and differentiation.
Pathways	This enzyme engages in the purinergic signaling pathway and can influence the MAPK/ERK pathway. Through its enzymatic action on nucleotides ENPP3 helps regulate signaling molecules which participate in processes such as cell growth and immune responses. Proteins related to these pathways include ATP-binding proteins like P2Y receptors and kinases involved in MAPK/ERK signaling.
Associated diseases and disorders	ENPP3's function links it to conditions such as allergy and asthma as its expression on mast cells affects histamine release. Changes in its activity are also noted in certain cancers where its role in signaling pathways can contribute to uncontrolled cell proliferation. In these disease contexts the protein interacts with other signaling molecules like cytokine receptors and oncogenic proteins which can modulate or exacerbate disease progression.

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.

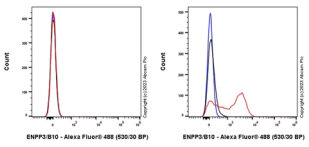
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

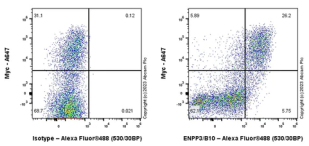
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2 product images



Flow Cytometry - Anti-ENPP3/B10 antibody [EPR27349-72] - BSA and Azide free (ab308454)

This data was developed using ab308453, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 293T (human embryonic kidney epithelial cell, Left) / KU812 (human Peripheral blood basophil, Right) cells labelling ENPP3/B10 with ab308453 at 1/50 dilution (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. Negative control: 293T (PMID: 11342463). Gated on viable cells.



Flow Cytometry - Anti-ENPP3/B10 antibody [EPR27349-72] - BSA and Azide free (ab308454)

This data was developed using ab308453, the same antibody clone in a different buffer formulation. Flow cytometric analysis of Parental HEK-293T (human embryonic kidney epithelial cell, Left) / HEK-293T transfected with Myc-tagged ENPP3 overexpression construct (Right) cells labelling ENPP3/B10 with ab308453 at 1/50 dilution (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. Cells were co-stained with anti-myc conjugated to 647. Gated on viable cells.

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