abcam

ab90751

PE Anti-ENPP3/B10 antibody [NP4D6]

Anti-ENPP3/B10 antibody [NP4D6] conjugated to PE - suitable for flow cytometry, intracellular flow cytometry, ICC/IF, and reacts with human samples. Clone [NP4D6] is a mouse monoclonal antibody cited in 18 publications.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing ENPP3 protein. The exact immunogen used to generate this antibody is proprietary information. Database link O14638
Clone number	NP4D6
Purification technique	Size-exclusion chromatography
Purification notes	The unconjugated antibody was purified by protein A (G) affinity chromatography (>95% by SDS-PAGE). After conjugation, the antibody was purified by size-exclusion chromatography and adjusted for direct use.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	20 µL for 10^6 Cells
Notes	ab91357 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
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

The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions.

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.

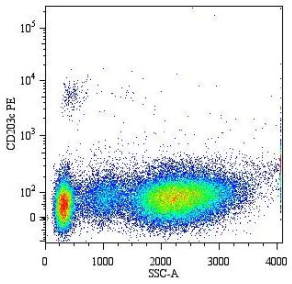
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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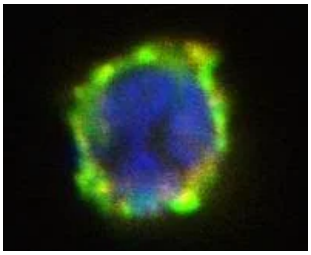
6 product images



Flow Cytometry - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

ENPP3/B10 Flow Cytometry staining using mouse Anti-ENPP3/B10 antibody

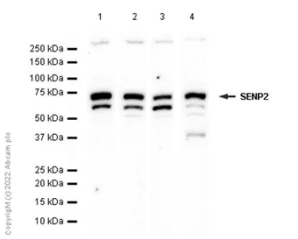
ab90751 staining ENPP3/B10 on the surface of human basophils isolated from allergen-stimulated whole blood by flow cytometery.



Immunocytochemistry/ Immunofluorescence - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

ENPP3/B10 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ENPP3/B10 antibody

Surface staining of activated human basophil by FITC-conjugated anti-CD63 (clone MEM-259, ab18235, green) and PE-conjugated anti-ENPP3/B10 (clone NP4D6, ab90751, red); merged signal yellow. DNA visualized by DAPI (blue).



Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

Blocking and diluting buffer: 5% NFDM/TBST We are not sure how to define the extra band below band of interest.
All lanes:
Western blot - Anti-SENP2 antibody [EPR4356(2)] (ab124724) at 1/10000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Lane 2:
MDA-MB-435S (Human breast adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Lane 3:
293T (Human embryonic kidney epithelial cell) whole cell lysate at 15 µg

Lane 4:
NIH: OVCAR-3 (Human ovary adenocarcinoma epithelial cell) whole cell lysate at 15 µg

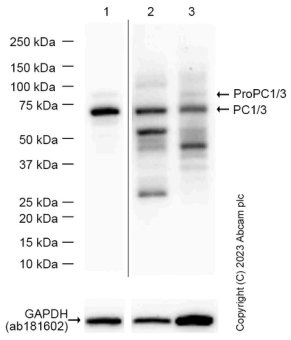
Secondary

All lanes:
Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751) at 1/20000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa

Exposure time: 40s



Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

Blocking and Diluting Buffer: 5% NFDM /TBST 87 kDa ProPC1/3; 66 kDa mature form (PMID: 26778167) Lane1 Expsoure Time: 20 seconds Lane2 and Lane3 were developed using a high sensitivity ECL substrate.
All lanes:
Western blot - Anti-PC1/3 antibody [EPR21908] (ab220363) at 1/1000 dilution

Lane 1:
Beta-TC-6 (mouse pancreas insulinoma beta cell) whole cell lysate at 20 µg

Lane 2:
Mouse pancreas lysate at 20 µg

Lane 3:
Mouse brain lysate at 20 µg

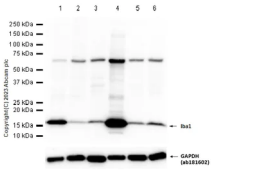
Secondary

All lanes:
Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751) at 1/20000 dilution

Predicted band size: 87 kDa

Observed band size: 66 kDa

Exposure time: 80s



Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

ENPP3/B10 Western blot staining using mouse Anti-ENPP3/B10 antibody

IBA1 is a relatively minor protein of brain and is much more abundant in spleen (PMID: 8912632, PMID: 29232670). We suggest loading higher amount of brain lysate or using lower dilution of antibody for detecting signal in brain related lysates.
All lanes:
Western blot - Anti-Iba1 antibody [EPR16589] - Microglia marker (ab178847) at 1/1000 dilution

Lane 1:
Mouse spleen tissue lysate at 20 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:

Mouse hippocampus tissue at 20 µg

Lane 4:
Rat spleen tissue lysate at 20 µg

Lane 5:
Rat brain tissue lysate at 20 µg

Lane 6:
Rat hippocampus tissue lysate at 20 µg

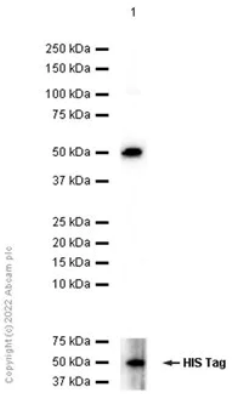
Secondary

All lanes:
Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751) at 1/20000 dilution

Predicted band size: 16 kDa

Observed band size: 17 kDa

Exposure time: 40s



Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751)

Blocking and diluting buffer: 5% NFDM/TBST Lysate/protein at 0.01 µg per lane.
All lanes:
Western blot - Anti-SENP2 antibody [EPR4356(2)] (ab124724) at 1/10000 dilution

Secondary

All lanes:
Western blot - PE Anti-ENPP3/B10 antibody [NP4D6] (ab90751) at 1/20000 dilution

Predicted band size: 68 kDa

Observed band size: 46 kDa

Exposure time: 20s

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