abcam

ab317441

Anti-CD13 antibody [EPR27472-288] - 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	EPR27472-288
Purification technique	Affinity purification Protein A
Concentration	1.005 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Anpep

Function Broad specificity aminopeptidase which plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. Also involved in the processing of various peptides including peptide hormones, such as angiotensin III and IV, neuropeptides, and chemokines (By similarity). May also be involved the cleavage of peptides bound to major histocompatibility complex class II molecules of antigen presenting cells (PubMed:8691132). May have a role in angiogenesis and promote cholesterol crystallization (By similarity). May have a role in amino acid transport by acting as binding partner of amino acid transporter SLC6A19 and regulating its activity (PubMed:22677001).

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab317441 is the carrirer-free version of ab317440.

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	CD13 also known as aminopeptidase N (ANPEP) is a transmembrane protein with a molecular weight of approximately 150 kDa. It functions as a zinc-dependent metalloenzyme which cleaves N-terminal amino acids from peptides and proteins. CD13 protein is expressed on various cell types including myeloid cells epithelial cells endothelial cells and fibroblasts. Its presence is significantly observed in the brush border of the small intestinal mucosa and the renal proximal tubule. Researchers can study CD13 using anti-CD13 antibodies and CD13 ELISA kits.
Biological function summary	CD13 regulates peptide-mediated signaling and controls the maturation and catabolism of bioactive peptides. The enzymatic function of CD13 influences processes such as cell proliferation motility and angiogenesis. It does not operate

	as part of a larger complex but its activity modulates several cellular and systemic functions. CD13's role in these biological processes highlights its importance in modulating local and systemic peptide pools which contributes to its diverse physiological effects.
Pathways	CD13 plays significant roles in the renin-angiotensin system and the regulation of inflammatory responses. In the renin-angiotensin system CD13 modulates the activity of angiotensin influencing blood pressure and fluid balance. Through its enzymatic activity CD13 interacts with proteins such as ACE another critical player in this pathway. In inflammation CD13 regulates the availability of chemotactic peptides affecting leukocyte migration and adhesion. The proteins it works with in inflammatory pathways include cytokines which CD13 indirectly modulates by altering chemokine activity.
Associated diseases and disorders	Aberrant CD13 expression and activity are implicated in cancer and inflammatory diseases. In cancer overexpression of CD13 correlates with tumor growth and metastasis particularly in cancers like renal cell carcinoma and prostate cancer. It can confer an increased malignant phenotype by promoting angiogenesis and immune evasion. In inflammatory disorders dysregulation of CD13 exacerbates diseases such as rheumatoid arthritis through its impact on peptide-mediated signaling and immune cell movement. Its connection with inflammatory cytokines like IL-8 indicates its important role in mediating inflammatory responses.

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

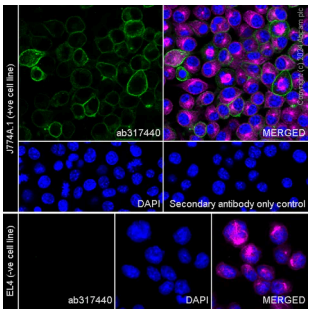
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD13 antibody [EPR27472-288] - BSA and Azide free (ab317441)

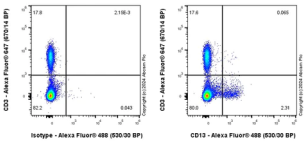
This data was developed using ab317440, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) cells labelling CD13 with ab317440 at 1/50 (10.06 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 membranous staining in J774A.1 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Negative control: EL4 (PMID: 8103749).
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 (Magenta). 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.



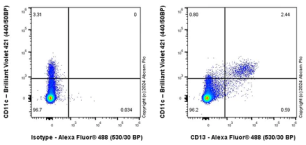
Flow Cytometry - Anti-CD13 antibody [EPR27472-288] - BSA and Azide free (ab317441)

This data was developed using ab317440, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse spleen cell cells labelling CD13 with ab317440 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left 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-CD3 conjugated to Alexa Fluor®647.
Gated on viable cells.



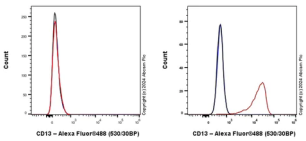
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Flow cytometric analysis of Mouse spleen cell cells labelling CD13 with ab317440 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary 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-CD11c conjugated to Brilliant Violet 421.
Gated on viable cells.



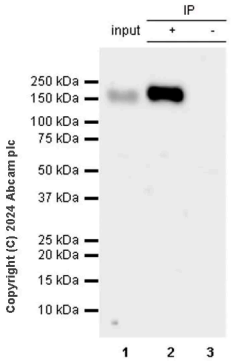
Flow Cytometry - Anti-CD13 antibody [EPR27472-288] - BSA and Azide free (ab317441)

This data was developed using ab317440, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) (Right) / EL4 (mouse lymphoma T lymphocyte) (Left) cells labelling CD13 with ab317440 at 1/500 dilution (0.1ug) (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.

Gated on viable cells.
Negative control: EL4 (PMID: 8103749)



Immunoprecipitation - Anti-CD13 antibody [EPR27472-288] - BSA and Azide free (ab317441)

This data was developed using ab317440, the same antibody clone in a different buffer formulation.

CD13 was immunoprecipitated from 0.35 mg J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) whole cell lysate with ab317440 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab317440 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) whole cell lysate
Lane 2: ab317440 IP in J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab317440 in J774A.1 whole cell lysate

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

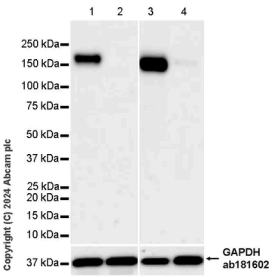
All lanes:
Immunoprecipitation - Anti-CD13 antibody [EPR27472-288] (ab317440) at 1/30 dilution

All lanes:
J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 24s



Western blot - Anti-CD13 antibody [EPR27472-288] - BSA and Azide free (ab317441)

CD13 Western blot staining using rabbit Anti-CD13 antibody

This data was developed using ab317440, the same antibody clone in a different buffer formulation.

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

Negative control: EL4 (PMID: 8103749).

Low expression: heart.

The molecular weight observed is consistent with what has been described in the literature (PMID: 37942010, 8103749).

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

All lanes:
Western blot - Anti-CD13 antibody [EPR27472-288] (ab317440) at 1/1000 dilution

Lane 1:
J774A.1 (mouse reticulum cell sarcoma monocyte/macrophage) whole cell lysate at 20 µg

Lane 2:
EL4 (mouse lymphoma T lymphocyte) whole cell lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

Lane 4:
Mouse heart tissue lysate at 20 µg

Secondary

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

Observed band size: 150 kDa, 36 kDa

Exposure time: 81s

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