abcam

ab313340

Anti-CD73 antibody [EPR28213-52] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR28213-52
Purification technique	Affinity purification Protein A
Concentration	1.046 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information NT5E

Function	Catalyzes the hydrolysis of nucleotide monophosphates, releasing inorganic phosphate and the corresponding nucleoside, with AMP being the preferred substrate (PubMed:21933152, PubMed:22997138, PubMed:23142347, PubMed:24887587, PubMed:34403084). Shows a preference for ribonucleotide monophosphates over their equivalent deoxyribose forms (PubMed:34403084). Other substrates include IMP, UMP, GMP, CMP, dAMP, dCMP, dTMP, NAD and NMN (PubMed:21933152, PubMed:22997138, PubMed:23142347, PubMed:24887587, PubMed:34403084).

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	CD73 also known as ecto-5'-nucleotidase is an enzyme that functions at the cellular level. The CD73 protein hydrolyzes extracellular nucleotides into nucleosides by removing phosphate groups. It is a 70 kDa glycosylphosphatidylinositol-anchored molecule found on the surface of various cell types including endothelial cells lymphocytes and epithelial cells. Its presence is noted in a wide range of tissues across the human body highlighting its versatile role in cellular communication and metabolism.
Biological function summary	CD73 participates in the regulation of purinergic signaling through adenosine production. It acts in cooperation with other cell surface enzymes such as CD39 forming a functional complex that handles ATP breakdown to adenosine. This enzymatic activity modulates immune responses tissue protection and inflammation control. In addition to immune-related functions CD73 supports the maintenance of vascular integrity and proper cellular adhesion which is important in different physiological and pathological contexts.

Pathways	CD73 plays an important part in the adenosinergic pathway governing the conversion of AMP into adenosine. This activity impacts the signaling and function of the adenosine receptors on immune and non-immune cells. Another important pathway is the angiogenesis process where CD73 contributes by affecting endothelial cell migration and blood vessel development. Relationships with key proteins such as adenosine A2 receptors help facilitate these critical pathway activities.
Associated diseases and disorders	CD73's involvement with immunosuppression and tumor progression becomes significant. Elevated levels of CD73 are frequently observed in some cancers where it aids in creating a favorable tumor microenvironment through increased adenosine production. This situation assists tumor cells in evading immune detection. Additionally CD73 is linked to autoimmune diseases like multiple sclerosis where it contributes to modulated lymphocyte activity. Connections with proteins such as TGF-beta further illustrate its role in disease-related pathways creating potential targets for therapeutic interventions through the use of anti-CD73 antibodies.

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

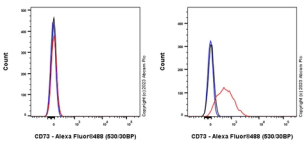
We do not recommend this combination. It is not covered by our product promise.

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.

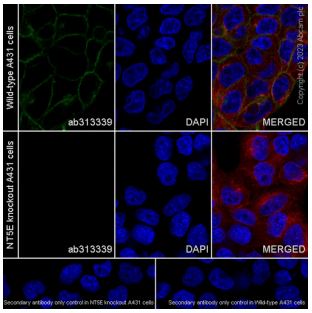
Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



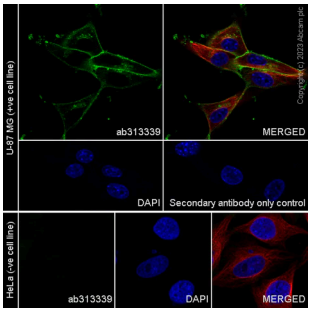
Flow Cytometry (Intracellular) - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NT5E KO A431 (human NT5E knockout epidermoid carcinoma epithelial cell, Left) / Parental A431(Right) cells labelling CD73 with ab313339 at 1/50 dilution (1 ug)/Red (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). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



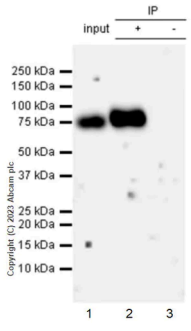
Immunocytochemistry/ Immunofluorescence - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NT5E KO A431 (NT5E knockout human epidermoid carcinoma epithelial cell) cells labelling CD73 with ab313339 at 1/50 (10.46 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing membranous staining in A431 cells and no staining in NT5E knockout A431 cells.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 2.5ug/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 2ug/ml dilution.



Immunocytochemistry/ Immunofluorescence - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized U-87 MG (human glioblastoma-astrocytoma epithelial cell) cells labelling CD73 with ab313339 at 1/50 (10.46 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing membranous staining in U-87 MG cells.Negative control: HeLa (PMID: 8566797)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 2.5ug/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 2ug/ml dilution.



Immunoprecipitation - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation. CD73 was immunoprecipitated from 0.35 mg U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate with ab313339 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab313339 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate Lane 2: ab313339 IP in U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab313339 in U-87 MG whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 180 seconds

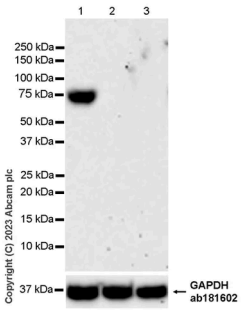
All lanes:
Immunoprecipitation - Anti-CD73 antibody [EPR28213-52] (ab313339) at 1/30 dilution

All lanes:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate

Secondary

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

Exposure time: 180s



Western blot - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Low expression: HeLa and Raji(PMID: 8566797) In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 180 seconds
All lanes:
Western blot - Anti-CD73 antibody [EPR28213-52] (ab313339) at 1/1000 dilution

Lane 1:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate at 40 µg

Lane 2:
Hela (human cervix adenocarcinoma epithelial cell) whole cell lysate at 40 µg

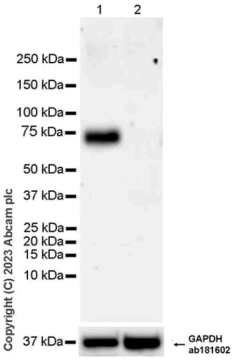
Lane 3:
Raji (human Burkitts lymphoma B lymphocyte) whole cell lysate at 40 µg

Secondary

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

Observed band size: 68 kDa

Exposure time: 180s



Western blot - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

CD73 Western blot staining using rabbit Anti-CD73 antibody

This data was developed using ab313339, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

Performed under reducing conditions.

In Western blot, ab313339 was shown to bind specifically to CD73. A band was observed at 68 kDa in wild-type A431 cell lysates whereas loss of signal was observed in the CD73 knockout cell line.

In Western blot, anti-GAPDH antibody [EPR16891] (ab181602) loading control staining at 1/10000 dilution.

This blot was developed using a high sensitivity ECL substrate. The high-sensitivity ECL substrate used allows for the detection of proteins in the mid-femtogram range.
All lanes:
Western blot - Anti-CD73 antibody [EPR28213-52] (ab313339) at 1/1000 dilution

Lane 1:
Wild-type A431 (human epidermoid carcinoma epithelial cell) whole cell lysate at 40 µg

Lane 2:
CD73 knockout A431 whole cell lysate at 40 µg

Secondary

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

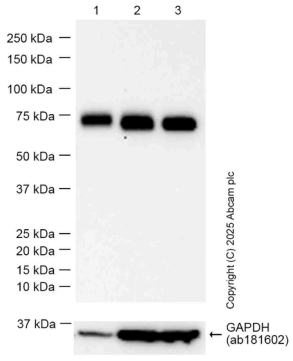
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 63 kDa

Observed band size: 68 kDa

Exposure time: 92s



Western blot - Anti-CD73 antibody [EPR28213-52] - BSA and Azide free (ab313340)

This data was developed using ab313339, the same antibody clone in a different buffer formulation.

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

All lanes:
Western blot - Anti-CD73 antibody [EPR28213-52] (ab313339) at 1/1000 dilution

Lane 1:
A431 (Human epidermoid carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
A375 (Human malignant melanoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
Human spleen tissue lysate at 20 µg

Secondary

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

Predicted band size: 63 kDa

Observed band size: 68 kDa

Exposure time: 60s

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