abcam

ab222389

Anti-CD147 antibody [EPR18008-8] - 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	EPR18008-8
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Recombinant fragment, Recombinant fragment - Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use an isotype control with this antibody.

Not recommended

Species	Recombinant fragment, Recombinant fragment - Mouse
Dilution info	-
Notes	-

WB

Expected

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

Not recommended

Species	Recombinant fragment - Mouse
Dilution info	-
Notes	-

sELISA

Tested

Species	Recombinant fragment - Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment, Recombinant fragment - Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment, Recombinant fragment - Mouse
Dilution info	-
Notes	-

Target data

See full target information Bsg

Function

Isoform 1. Essential for normal retinal maturation and development (PubMed:10967074, PubMed:11273674, PubMed:11853760). Acts as a retinal cell surface receptor for NXNL1 and plays an important role in NXNL1-mediated survival of retinal cone photoreceptors (PubMed:25957687). In association with glucose transporter SLC16A1/GLUT1 and NXNL1, promotes retinal cone survival by enhancing aerobic glycolysis and accelerating the entry of glucose into photoreceptors (PubMed:25957687). Isoform 2. Signaling receptor for cyclophilins, essential for PPIA/CYPA and PPIB/CYPB-dependent signaling related to chemotaxis and adhesion of immune cells (By similarity). Plays an important role in targeting the monocarboxylate transporters SLC16A1, SLC16A3 and SLC16A8 to the plasma membrane (PubMed:12601063). Acts as a coreceptor for vascular endothelial growth factor receptor 2 (KDR/VEGFR2) in endothelial cells enhancing its VEGFA-mediated activation and downstream signaling (By similarity). Promotes angiogenesis through EPAS1/HIF2A-mediated up-regulation of VEGFA and KDR/VEGFR2 in endothelial cells (By similarity). Plays an important role in spermatogenesis; mediates interactions between germ cells and Sertoli cell and is essential for the development/differentiation of germ cells to round spermatids (PubMed:11882021, PubMed:23727514). Plays a role in neurite outgrowth.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab222389 is the carrier-free version of ab188190.

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.

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	CD147 also referred to as EMMPRIN or basigin is a transmembrane glycoprotein with a molecular weight of roughly 50–60 kDa. This protein is found on the surface of many cell types including leukocytes platelets and endothelial cells and it plays a critical role in cell function related to immune responses and cellular interactions. CD147 interacts with several cellular components serving mechanical functions such as facilitating cell-to-cell communication and contributing to the stability of cell structures. The protein is ubiquitously expressed but exhibits higher levels in tissues like the brain skin and liver.
Biological function summary	CD147 engages in multiple roles beyond its mechanical functions. It functions as a part of protein complexes and is involved in processes such as regulation of matrix metalloproteinases (MMPs) which are pivotal in tissue remodeling and repair. It can modulate inflammatory responses and is essential for cellular signaling pathways that affect cellular metabolism and growth. The involvement of CD147 in immune responses indicates its importance in various physiological processes.
Pathways	CD147 plays a significant role in the MAPK and NF-kB signaling pathways which are fundamental for controlling inflammatory responses and cell survival. It interacts with proteins such as integrins and cyclophilins which are important for mediating these pathways. These interactions highlight CD147's impact on cellular dynamics and its potential role in modulating the cellular environment in response to external stimuli.
Associated diseases and disorders	CD147 has been implicated in cancer promotion and progression as well as inflammatory diseases like rheumatoid arthritis. Its overexpression is often observed in tumors where it interacts with MMPs to facilitate tumor invasion and metastasis. In inflammatory conditions CD147 can influence the behavior of

proteins like cytokines exacerbating symptoms and contributing to disease severity. These associations make CD147 a potential target for therapeutic intervention in cancer and inflammatory diseases.

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

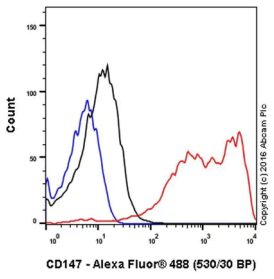
We do not recommend this combination. It is not covered by our product promise.

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.

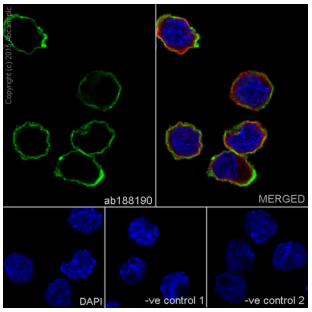
7 product images



Flow Cytometry - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

CD147 Flow Cytometry staining using rabbit Anti-CD147 antibody

Flow cytometric analysis of fresh mouse thymocytes labeling CD147 with ab188190 at 1/200 dilution (red) compared with Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730; black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody; blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488) at 1/500 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).



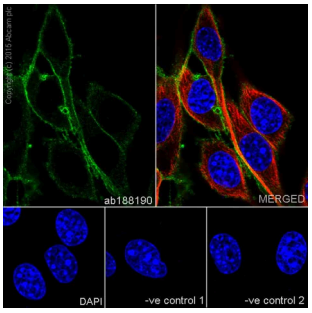
Immunocytochemistry/ Immunofluorescence - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

CD147 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD147 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized WEHI-231 (Mouse B Cell Lymphoma cell line) cells labeling CD147 with ab188190 at 1/250 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cell membrane staining on WEHI-231 cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab188190 at 1/250 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).



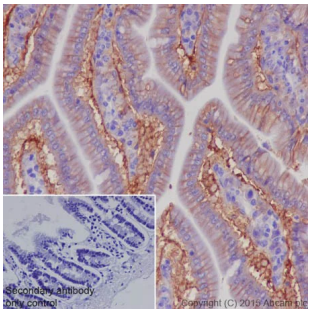
Immunocytochemistry/ Immunofluorescence - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

CD147 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD147 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized bEND.3 (Mouse brain capillary endothelial cell line) cells labeling CD147 with ab188190 at 1/250 dilution, followed by by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cell membrane staining on bEND.3 cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab188190 at 1/250 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).

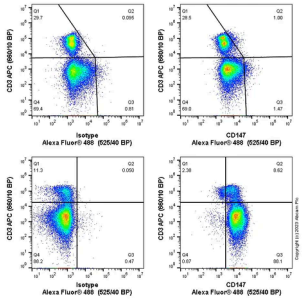


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

Immunohistochemical analysis of paraffin-embedded mouse intestine tissue labeling CD147 with ab188190 at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Membrane staining on mouse intestine is observed. Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

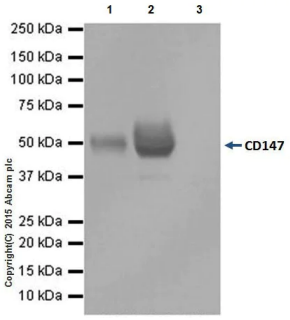
CD147 Flow Cytometry staining using rabbit Anti-CD147 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).

Flow cytometry staining of C57 BL/6 mouse splenocytes (top) or C57 BL/6 mouse thymocytes (bottom), with ab188190 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). Splenocytes or thymocytes were incubated for 30 min at 4°C in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by ab188190 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 106 in 100 µl at 0.1 µg/ml (1/21900)) for 30 min at 4°C. The cells were simultaneously stained with CD3.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 4°C

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable cells.



Immunoprecipitation - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

CD147 was immunoprecipitated from 1 mg of RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate with ab188190 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab188190 at 1/5000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: RAW 264.7 whole cell lysate 10µg (Input).

Lane 2: ab188190 IP in RAW 264.7 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab188190 in RAW 264.7 whole cell lysate.

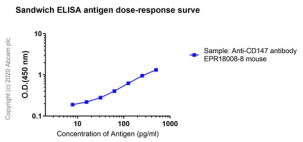
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 second.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).

All lanes:
Immunoprecipitation - Anti-CD147 antibody [EPR18008-8] (ab188190)

Predicted band size: 42 kDa



Sandwich ELISA - Anti-CD147 antibody [EPR18008-8] - BSA and Azide free (ab222389)

Standard Curve for CD147 (Analyte: Recombinant mouse CD147 protein) dilution range 0 pg/mL to 500 pg/mL using Capture antibody at 0.2 ug/mL and Detector Antibody at 0.5 ug/mL. Secondary antibody: Peroxidase Streptavidin SA-HRP at 1/20000 dilution. Concentration of ab188190 may vary from lot to lot; please use this curve as guideline.
Washing buffer: 1X PBST
Blocking/Diluting buffer and concentration: 1% BSA/PBS

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188190).

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