abcam

ab318184

Anti-CD226 antibody [EPR23641-137] - 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	EPR23641-137
Purification technique	Affinity purification Protein A
Concentration	0.486 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

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	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD226

Function	Cell surface receptor that plays an important role in the immune system, particularly in intercellular adhesion, lymphocyte signaling, cytotoxicity and lymphokine secretion mediated by cytotoxic T-cells and NK cells (PubMed:8673704, PubMed:9712030). Functions as a costimulatory receptor upon recognition of target cells, such as virus-infected or tumor cells. Upon binding to its ligands PVR/CD155 or NECTIN2/CD112 on target cells, promotes the cytotoxic activity of NK cells and CTLs, enhancing their ability to kill these cells (PubMed:26755705, PubMed:31253644, PubMed:30591568). Mechanistically, phosphorylation by Src kinases such as LYN of FYN, enables binding to adapter GRB2, leading to activation of VAV1, PI3K and PLCG1. Promotes also activation of kinases ERK and AKT, as well as calcium fluxes (By similarity).

Storage

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

Notes

ab318184 is the carrier-free version of ab318183.

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	CD226 also known as DNAM-1 (DNAX Accessory Molecule-1) is a transmembrane protein expressed on the surface of various immune cells such as T cells natural killer (NK) cells and some B cells. The protein has a molecular weight of approximately 65 kDa. CD226 is part of the Ig superfamily and plays a role in the adhesion and signaling processes of immune cells. It interacts with its ligands CD112 (PVRL2) and CD155 (PVR) on target cells facilitating immune synapse formation and cytotoxic activity.
Biological function summary	CD226 is involved in immune cell activation and receptor-mediated signaling. It aids the recognition and destruction of target cells by NK cells and cytotoxic T lymphocytes through its interaction with ligand-expressing cells. CD226 does not work alone but functions as part of a complex system of co-stimulatory and inhibitory receptors balancing immune responses. Its cooperation with receptors such as CD96 and TIGIT (T cell immunoreceptor with Ig and ITIM domains) modulates the activity of immune effector cells.
Pathways	CD226 takes part in immune signaling pathways that regulate cell-mediated cytotoxicity and inflammation. It is an important component of the immune checkpoint axis interacting closely with proteins like CD96 and TIGIT within these pathways. This interaction helps determine the fate of immune responses influencing the progression or resolution of inflammatory and autoimmune conditions. CD226 plays a role in the NK cell-mediated cytotoxicity pathway and the adaptive immune response.
Associated diseases and disorders	CD226 has been linked to autoimmune diseases such as multiple sclerosis and type 1 diabetes. Abnormal expression or function of CD226 can influence the pathogenesis of these conditions often through interactions with related proteins like TIGIT impacting immune tolerance and effector cell function. CD226's involvement in regulating immune responses highlights its importance as a

potential therapeutic target in managing autoimmune and other immune-related disorders.

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

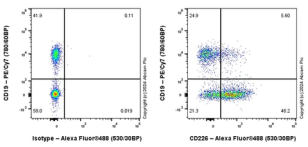
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



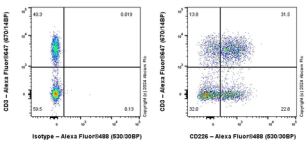
Flow Cytometry - Anti-CD226 antibody [EPR23641-137] - BSA and Azide free (ab318184)

This data was developed using ab318183, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell). cells labelling CD226 with ab318183 at 1/5000 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-CD19 conjugated to PE/Cy7.The low expression pattern is consistent with what described in the literature. (PMID: 8673704)
Gated on viable cells.



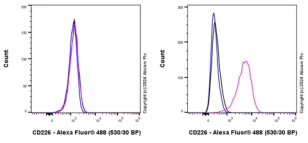
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Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti-CD3 conjugated to Alexa Fluor®647.
Gated on viable cells.



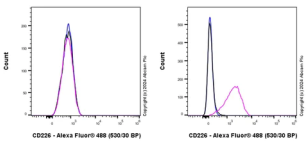
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Flow cytometric analysis of HEL (human erythroleukemia erythroblast) (Right) / K-562 (human chronic myelogenous leukemia lymphoblast) (Left). cells labelling CD226 with ab318183 at 1/5000 dilution (0.1ug) / Magenta compared with a Rabbit monoclonal 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: K-562 (PMID: 8673704).



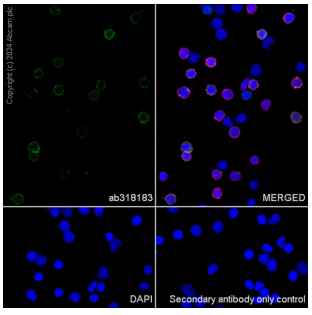
Flow Cytometry - Anti-CD226 antibody [EPR23641-137] - BSA and Azide free (ab318184)

This data was developed using ab318183, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Jurkat (human T cell leukemia T lymphocyte from peripheral blood) (Right) / MCF7 (human breast adenocarcinoma epithelial cell) (Left). cells labelling CD226 with ab318183 at 1/5000 dilution (0.1ug) / Magenta 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: MCF7 (PMID: 8673704).



Immunocytochemistry/ Immunofluorescence - Anti-CD226 antibody [EPR23641-137] - BSA and Azide free (ab318184)

This data was developed using ab318183, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC cells labelling CD226 with ab318183 at 1/100 (5.14 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 subsets of human PBMC (shown in green), which is co-localized with CD3 marker. The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-human CD3 mouse monoclonal antibody (Alexa Fluor® 647) was used to counterstain tubulin at 1/200 2.5ug/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.

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