abcam

ab248400

Anti-CD2 antibody [EPR6451] - 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	EPR6451
Purification technique	Affinity purification Protein A
Concentration	1.04 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CD2

Function	CD2 interacts with lymphocyte function-associated antigen CD58 (LFA-3) and CD48/BCM1 to mediate adhesion between T-cells and other cell types. CD2 is implicated in the triggering of T-cells, the cytoplasmic domain is implicated in the signaling function.

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

ab248400 is the carrier-free version of ab131276.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	CD2 also known as T11 or LFA-2 acts as a cell surface glycoprotein expressed mainly on T-cells natural killer cells and thymocytes. This protein has a molecular mass of approximately 50-55 kDa. CD2 plays a critical role in facilitating cell-cell adhesion and signal transduction. It serves as a receptor for the CD58 ligand on antigen-presenting cells supporting the interaction between T-cells and these cells. By enhancing adhesion CD2 contributes to the formation of the immunological synapse necessary for effective immune response.

Biological function summary	The functioning of CD2 helps in the modulation of immune responses and T-cell activation. CD2 participates in signal transduction leading to cytokine production and proliferation. It is associated with the immunological synapse complex working closely with other surface molecules like Lck and CD3 to promote T-cell responses. This collaboration is vital for the development and function of immune cells driving adaptive immunity.
Pathways	CD2 engages in pathways integral to T-cell activation and signal transduction. A well-known pathway involving CD2 is the TCR (T-cell Receptor) signaling pathway where it partners with CD3 to initiate T-cell activation. Additionally CD2 influences the LAT (Linker for Activation of T-cells) pathway contributing to downstream signaling cascades that involve various signaling proteins such as Lck and ZAP-70 ensuring proper T-cell function.
Associated diseases and disorders	CD2 shows connections to autoimmune diseases and cancers. For instance its involvement in abnormal T-cell activation links CD2 to autoimmune conditions like rheumatoid arthritis. Also various leukemias demonstrate altered CD2 expression suggesting a role in cancer pathogenesis. Through these disease states CD2's interaction with the CD58 protein becomes critical as this interaction affects the activity of T-cells in the disease milieu influencing disease progression and treatment outcomes.

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

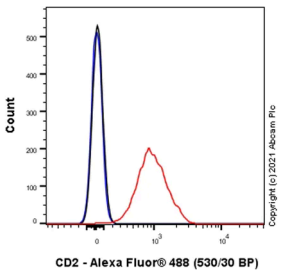
We do not recommend this combination. It is not covered by our product promise.

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.

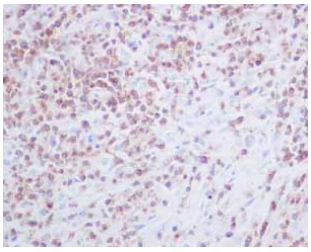
8 product images



Flow Cytometry (Intracellular) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

CD2 Flow Cytometry (Intracellular) staining of Jurkat (Human T cell leukemia T lymphocyte) using rabbit Anti-CD2 antibody

This data was developed using ab131276, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling CD2 with purified ab131276 at 1:20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as a isotype control. Cell without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.

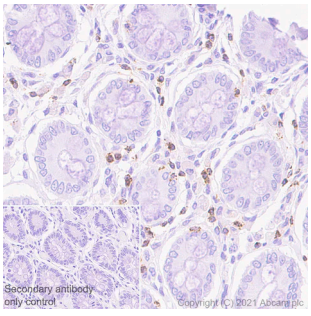


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

CD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD2 antibody

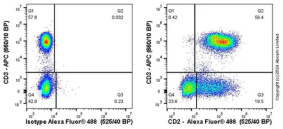
This data was developed using ab131276, the same antibody clone in a different buffer formulation.
ab131276 showing positive staining in Hodgkin's lymphoma tissue.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

This data was developed using ab131276, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of Paraffin-embedded sections Human colon tissue labelling CD2 with ab131276 at 1/1000 dilution, followed by a ready to use secondary Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Staining on Human colon tissue is observed. Counter stained with Haematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Flow Cytometry (Intracellular) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

CD2 Flow Cytometry (Intracellular) staining of PBMC using rabbit Anti-CD2 antibody

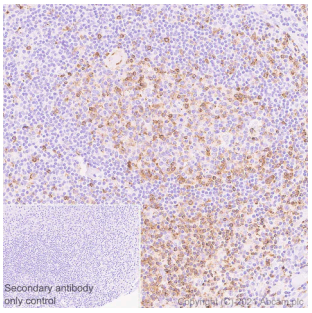
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131276).

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab131276 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left).

PBMCs were incubated for 30 min on ice in 1x PBS containing 10 µg/ml human IgG and 10 % normal goat serum to block FC receptors and non-specific protein-protein interactions. Cells were fixed and permeabilised with BD Cytofix/Cytoperm™ for 20 min, followed by addition of the antibody ab131276 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 10^6 in 100 µl at 0.04 µg/ml (1/12,500)) for 30 min at 22°C . The cells were simultaneously stained with CD3.

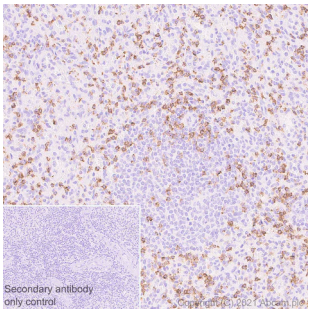
The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

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



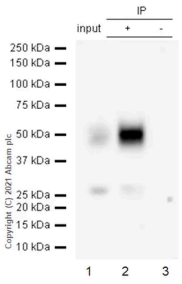
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

This data was developed using ab131276, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of Paraffin-embedded sections Human tonsil tissue labelling CD2 with ab131276 at 1/1000 dilution, followed by a ready to use secondary Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Staining on Human tonsil tissue is observed. Counter stained with Haematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

This data was developed using ab131276, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of Paraffin-embedded sections Human spleen tissue labelling CD2 with ab131276 at 1/1000 dilution, followed by a ready to use secondary Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Staining on Human spleen tissue is observed. Counter stained with Haematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunoprecipitation - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

This data was developed using ab131276, the same antibody clone in a different buffer formulation.
CD2 was immunoprecipitated from 0.35 mg Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate 10 µg with 131276 at 1/50 dilution (2µg). VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate 10 µg

Lane 2: ab131276 IP in Jurkat whole cell lysate

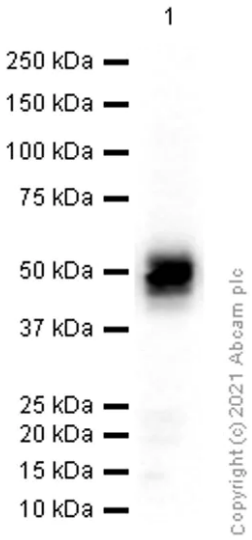
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab131276 in Jurkat whole cell lysate

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

All lanes:
Immunoprecipitation - Anti-CD2 antibody [EPR6451] (ab131276)

Predicted band size: 39 kDa

Observed band size: 50 kDa



Western blot - Anti-CD2 antibody [EPR6451] - BSA and Azide free (ab248400)

This data was developed using ab131276, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST. The molecular weight observed is consistent with what has been described in the literature (PMID: 10510361).
All lanes:
Western blot - Anti-CD2 antibody [EPR6451] (ab131276) at 1/1000 dilution

All lanes:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 29 kDa

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