abcam

ab313876

Anti-CD1a antibody [EPR26526-62] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation | 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	EPR26526-62
Purification technique	Affinity purification Protein A
Specificity	This antibody does not cross-react with human CD1B.
Concentration	1.031 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	-

IHC-P

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	-

mIHC

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD1A

Function	Antigen-presenting protein that binds self and non-self lipid and glycolipid antigens and presents them to T-cell receptors on natural killer T-cells.

Storage

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

Notes

ab313876 is the carrier-free version of ab313875.

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	CD1a also known as T6 antigen or CD1 is a protein with an estimated molecular mass of 37 kDa. It is expressed mainly on the surface of Langerhans cells in the skin and dendritic cells in the thymus. CD1a belongs to the CD1 family which presents lipid antigens to T cells. The protein is an important marker in immunophenotyping of these dendritic cells making it useful in flow cytometry applications.
Biological function summary	CD1a participates in the immune system by presenting lipid and glycolipid antigens to T lymphocytes including natural killer T (NKT) cells. It forms a complex with β2-microglobulin which is essential for its proper function and antigen presentation. CD1a expression helps differentiate between types of dendritic cells with CD1a-positive cells often engaging in specific responses to microbial lipid antigens.
Pathways	CD1a plays a significant role in the antigen presentation pathway particularly in lipid antigen presentation to T cells. This is important for initiating immune responses. It interacts with related proteins such as CD1b and CD1c which also present lipid antigens. CD1a has implications in innate and adaptive immunity and can influence pathways involved in microbial recognition and elimination.
Associated diseases and disorders	CD1a is associated with certain skin conditions like Langerhans Cell Histiocytosis and psoriasis. It is involved in the pathogenesis of these diseases by affecting immune responses in the skin. In Langerhans Cell Histiocytosis CD1a-positive cells accumulate abnormally. Additionally CD1a is often studied alongside related proteins like CD207 (Langerin) to understand these conditions better.

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

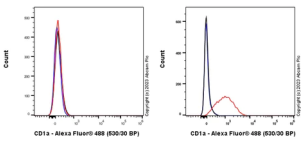
We do not recommend this combination. It is not covered by our product promise.

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.

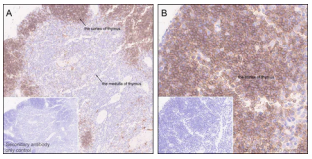
Full details and terms and conditions can be found here:
Terms & Conditions.

9 product images



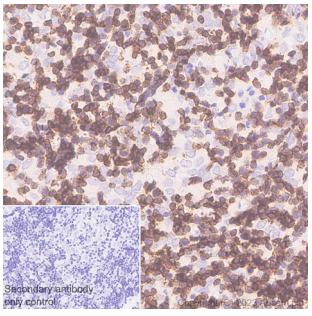
Flow Cytometry - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation.Flow cytometric analysis of HeLa (human cervical adenocarcinoma epithelial cell, Left) / MOLT-4 (human lymphoblastic leukemia T lymphoblast, Right) cells labelling CD1a with ab313875 at 1/50 dilution (1 ug)/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. Negative control: HeLa. Gated on viable cells.



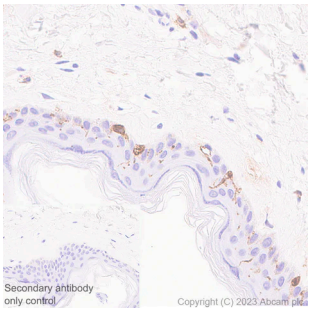
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded human thymus tissue labeling CD1a with ab313875 at 1/10000 (0.052 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on cortical thymocytes of human thymus (PMID: 28400115; PMID: 21565561). (A) Low☒powered (magnification, x100) and (B) high☒powered (magnification, x400) microscopic images. The section was incubated with ab313875 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



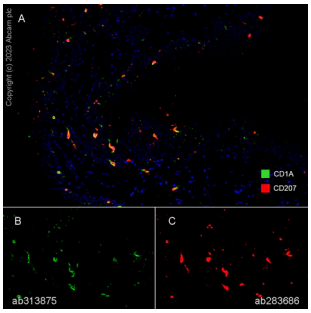
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded human thymoma tissue labeling CD1a with ab313875 at 1/10000 (0.052 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human thymoma (PMID: 35547871). The section was incubated with ab313875 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



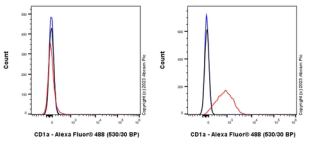
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded human skin tissue labeling CD1a with ab313875 at 1/10000 (0.052 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on epidermal Langerhans cells of human skin (PMID: 20514853). The section was incubated with ab313875 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



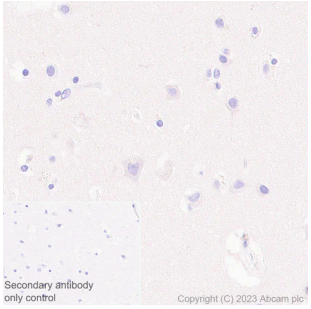
Multiplex immunohistochemistry - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Fluorescence multiplex immunohistochemical analysis of the human skin (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-CD1A (green; Opal™520) and anti-CD207 (red; Opal™570) on human skin. Panel B: anti-CD1A stained on Langerhans cells subsets. Panel C: anti-CD207 stained on Langerhans cells subsets. The section was incubated in two rounds of staining: in the order of ab283686 and ab313875 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Flow Cytometry - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation.Flow cytometric analysis of CD1A KO Jurkat (CD1A knockout human T cell leukemia T lymphocyte from peripheral blood, Left) / Parental Jurkat (Right) cells labelling CD1a with ab313875 at 1/50 dilution (1 ug)/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.

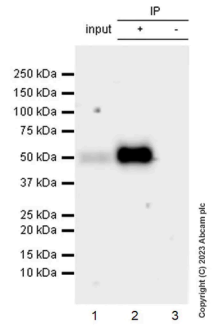


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

CD1a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rabbit Anti-CD1a antibody

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded human cerebrum tissue labeling CD1a with ab313875 at 1/10000 (0.052 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on human cerebrum (PMID: 27666391). The section was incubated with ab313875 for 30 mins at room temperature. The

immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunoprecipitation - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

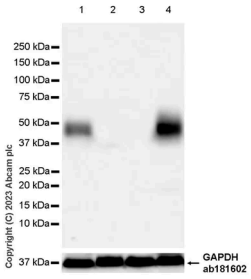
This data was developed using ab313875, the same antibody clone in a different buffer formulation. CD1a was immunoprecipitated from 0.35 mg Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate with ab313875 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab313875 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate Lane 2: ab313875 IP in Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab313875 in Jurkat whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-CD1a antibody [EPR26526-62] (ab313875) at 1/30 dilution

All lanes:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate

Secondary

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

Exposure time: 15s



Western blot - Anti-CD1a antibody [EPR26526-62] - BSA and Azide free (ab313876)

This data was developed using ab313875, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Negative control: HeLa. In Western blot, ab313875 was shown to bind specifically to CD1A. Target of interest was observed at 45-50 kDa in wild-type Jurkat cell lysates (lane 1) with no signal observed at this size in CD1A knockout cell line (lane 2) (lane 2, knockout cell line ab274926). Samples are non-boiled as boiling may cause protein aggregation. In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.
All lanes:
Western blot - Anti-CD1a antibody [EPR26526-62] (ab313875) at 1/1000 dilution

Lane 1:
Wild-type Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate at 60 µg

Lane 2:
CD1A knockout Jurkat whole cell lysate at 60 µg

Lane 3:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 60 µg

Lane 4:
MOLT-4 (human lymphoblastic leukemia t lymphoblast) whole cell lysate at 60 µg

Secondary

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

Performed under reducing conditions.

Observed band size: 45-50 kDa

Exposure time: 8s

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