abcam

ab255986

Anti-LILRB1 antibody [EPR22861-6] - 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	EPR22861-6
Purification technique	Affinity purification Protein A
Concentration	1.048 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

WB

Expected

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

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Target data

See full target information LILRB1

Function	Receptor for class I MHC antigens. Recognizes a broad spectrum of HLA-A, HLA-B, HLA-C, HLA-G and HLA-F alleles (PubMed:16455647, PubMed:28636952). Receptor for H301/UL18, a human cytomegalovirus class I MHC homolog. Ligand binding results in inhibitory signals and down-regulation of the immune response. Engagement of LILRB1 present on natural killer cells or T-cells by class I MHC molecules protects the target cells from lysis. Interaction with HLA-B or HLA-E leads to inhibition of FCER1A signaling and serotonin release. Inhibits FCGR1A-mediated phosphorylation of cellular proteins and mobilization of intracellular calcium ions (PubMed:11907092, PubMed:9285411, PubMed:9842885). Recognizes HLA-G in complex with B2M/beta-2 microglobulin and a nonamer self-peptide (PubMed:16455647). Upon interaction with peptide-bound HLA-G-B2M complex, triggers secretion of growth-promoting factors by decidual NK cells (PubMed:19304799, PubMed:29262349). Reprograms B cells toward an immune suppressive phenotype (PubMed:24453251).

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

ab255986 is the carrier-free version of ab238145.

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	LILRB1 also known as leukocyte immunoglobulin-like receptor subfamily B member 1 or CD85j is a protein expressed mainly on myeloid cells including monocytes and dendritic cells as well as some subsets of lymphocytes. This transmembrane protein is approximately 110-120 kDa in mass and is recognized for its role in immune regulation. LILRB1 interacts with MHC class I molecules on target cells mediating inhibitory signals that prevent immune overactivation. These interactions allow LILRB1 to help maintain self-tolerance and regulate adaptive immune responses.
Biological function summary	LILRB1 functions as an inhibitory receptor that dampens immune system activation by recruiting SHP-1 and SHP-2 phosphatases. As part of a complex with other immune checkpoint molecules LILRB1 modulates the balance between activating and inhibitory signals in immune cells. Its inhibitory signaling prevents excessive inflammation by reducing cytokine production and limiting T cell proliferation.
Pathways	This protein plays a role in immune signaling pathways specifically through interactions with proteins involved in the regulation of immune responses such as KIRs (Killer-cell Immunoglobulin-like Receptors). It participates in pathways that control the inhibitory signals controlling immune activity like the NK cell cytotoxicity pathway and the Fc gamma R-mediated phagocytosis pathway. Through these mechanisms LILRB1 maintains immune equilibrium and preserves tissue integrity during immune responses.
Associated diseases and disorders	The dysregulation of LILRB1 activity links to autoimmune conditions and infectious disease outcomes. Aberrant expression or function can impact diseases such as rheumatoid arthritis and HIV influencing the progression and severity of these conditions. In rheumatoid arthritis altered LILRB1 signaling may exacerbate inflammation while in the context of HIV it could affect immune cell exhaustion. Furthermore LILRB1 interactions with proteins like ILT2 highlight its potential involvement in modulating immune responses during these 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.

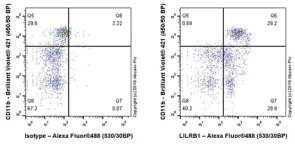
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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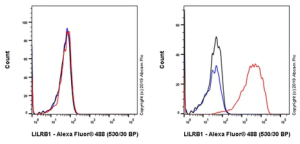
4 product images



Flow Cytometry - Anti-LILRB1 antibody [EPR22861-6] - BSA and Azide free (ab255986)

LILRB1 Flow Cytometry staining using rabbit Anti-LILRB1 antibody

Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) cells labeling LILRB1 with ab238145 at 1/500 dilution (0.1µg)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. Goat anti rabbit IgG (Alexa Fluor® 488, ab150097) at 1/5000 dilution was used as the secondary antibody. Cells were stained with anti-CD11b conjugated to BV421. Then stained with rabbit IgG (Left) or ab238145 (Right). Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab238145).

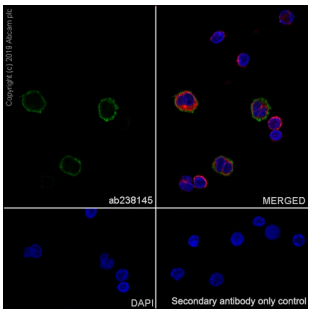


Flow Cytometry - Anti-LILRB1 antibody [EPR22861-6] - BSA and Azide free (ab255986)

LILRB1 Flow Cytometry staining using rabbit Anti-LILRB1 antibody

Flow cytometric analysis of 2% paraformaldehyde fixed 0.1% Tween-20 permeabilized HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with myc-tagged LILRB2 expression vector (Left) / HEK-293T transfected with myc-tagged LILRB1 expression vector (Right) cells labeling LILRB1 with ab238145 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Cells were surface stained with rabbit IgG (black) or ab238145 (red). Then fixed with 2% PFA followed by intracellularly stained with anti-myc tag conjugated to Alexa Fluor® 647. Gated on myc+ population.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab238145).

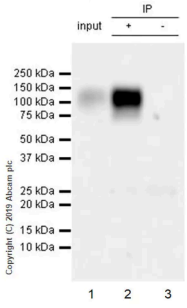


Immunocytochemistry/ Immunofluorescence - Anti-LILRB1 antibody [EPR22861-6] - BSA and Azide free (ab255986)

LILRB1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-LILRB1 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized human PBMC (human primary peripheral blood mononuclear cell) cells labeling LILRB1 with ab238145 at 1/50 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing membranous staining in subsets of human PBMC is observed. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit secondary 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 (ab238145).



Immunoprecipitation - Anti-LILRB1 antibody [EPR22861-6] - BSA and Azide free (ab255986)

LILRB1 was immunoprecipitated from 0.35 mg IM-9 (Human multiple myeloma B Lymphoblast) whole cell lysate with ab238145 at 1/30 dilution (2 µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab238145 1/1000 dilution (0.48 µg/ml). VeriBlot for IP Detection Reagent (HRP) (ab131366) was used as the secondary antibody at 1/5000 dilution.
Lane 1: IM-9 (Human multiple myeloma B Lymphoblast) whole cell lysate 10µg
Lane 2: ab238145 IP in IM-9 whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab238145 in IM-9 whole cell lysate.

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

Exposure time: 30 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab238145).

All lanes:
Immunoprecipitation - Anti-LILRB1 antibody [EPR22861-6] (ab238145)

Predicted band size: 71 kDa

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