abcam

ab287992

Anti-LAIR1 antibody [EPR24745-12A] - 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	EPR24745-12A
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information LAIR1

Function

Functions as an inhibitory receptor that plays a constitutive negative regulatory role on cytolytic function of natural killer (NK) cells, B-cells and T-cells. Activation by Tyr phosphorylation results in recruitment and activation of the phosphatases PTPN6 and PTPN11. It also reduces the increase of intracellular calcium evoked by B-cell receptor ligation. May also play its inhibitory role independently of SH2-containing phosphatases. Modulates cytokine production in CD4+ T-cells, down-regulating IL2 and IFNG production while inducing secretion of transforming growth factor beta. Also down-regulates IgG and IgE production in B-cells as well as IL8, IL10 and TNF secretion. Inhibits proliferation and induces apoptosis in myeloid leukemia cell lines as well as prevents nuclear translocation of NF-kappa-B p65 subunit/RELA and phosphorylation of I-kappa-B alpha/CHUK in these cells. Inhibits the differentiation of peripheral blood precursors towards dendritic cells.

Storage

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

Notes

ab287992 is the carrier free version of ab315967.

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	LAIR1 also known as Leukocyte-Associated Immunoglobulin-like Receptor 1 is a transmembrane protein with a molecular weight of approximately 32 kDa. It expresses mainly on immune cells including T cells B cells and myeloid cells. This receptor by binding to collagen plays a significant role in controlling immune cell signaling. It acts as an inhibitory receptor which helps in maintaining immune system balance and prevents excessive immune responses.
Biological function summary	LAIR1 functions by modulating immune responses and maintaining homeostasis in the immune system. It is a part of a complex pathway involved in inhibitory signaling. When LAIR1 binds to its ligand such as collagen it transduces a signal that reduces activation of immune cells. This inhibition ensures that immune cells do not become overactive which could otherwise lead to tissue damage.
Pathways	LAIR1 participates in immune checkpoint regulation and collagen interaction pathways. It interacts with proteins such as ITIM-containing molecules which transmit inhibitory signals essential for regulating immune cell activation. It also indirectly connects to the TGF-beta signaling pathway which is vital for controlling cell differentiation and immune regulation.
Associated diseases and disorders	LAIR1 is of interest due to its connection to autoimmune diseases and certain cancers. In autoimmune diseases such as rheumatoid arthritis dysregulated LAIR1 signaling may contribute to inflammation. The protein is also linked to cancer where its inhibitory signaling might affect tumor immune evasion. The connection between LAIR1 and these conditions involves proteins like autoimmune-related genes and tumor-associated surface molecules.

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.

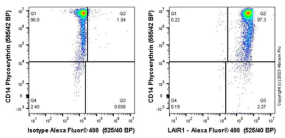
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

3 product images



Flow Cytometry - Anti-LAIR1 antibody [EPR24745-12A] - BSA and Azide free (ab287992)

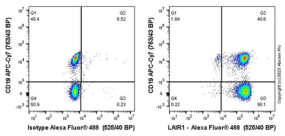
LAIR1 Flow Cytometry staining of human peripheral blood mononuclear cells using rabbit Anti-LAIR1 antibody

This data was developed using ab315967, the same antibody clone in a different buffer formulation.

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab315967(right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (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 interaction followed by the antibody ab315967 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control(1x 10^6 in 100 µl at 0.2 µg/ml (1/25)) for 30min on ice. The cells were simultaneously stained with CD14.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/2000 for 30min on ice.

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



Flow Cytometry - Anti-LAIR1 antibody [EPR24745-12A] - BSA and Azide free (ab287992)

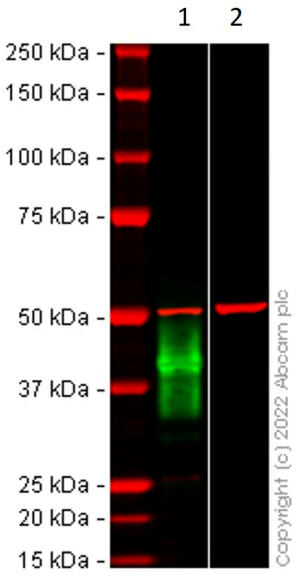
LAIR1 Flow Cytometry staining of human peripheral blood mononuclear cells using rabbit Anti-LAIR1 antibody

This data was developed using ab315967, the same antibody clone in a different buffer formulation.

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab315967 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (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 interaction followed by the antibody ab315967 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 10^6 in 100 µl at 0.2 µg/ml (1/25)) for 30min on ice. The cells were simultaneously stained with CD19.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/2000 for 30min on ice.

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on viable CD3(-) lymphocytes.



Western blot - Anti-LAIR1 antibody [EPR24745-12A] - BSA and Azide free (ab287992)

LAIR1 Western blot staining using rabbit Anti-LAIR1 antibody

This data was developed using ab315967, the same antibody clone in a different buffer formulation.

Lanes 1 & 2: Merged signal (red and green). Green – ab315967 observed at 40 kDa. Red - loading control, ab7291 observed at 50 kDa.

ab315967 was shown to specifically react with LAIR1. Samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. ab315967 and Anti-alpha Tubulin antibody [DM1A]-Loading Control (ab7291) were incubated overnight at 4°C at 1 in 1000 and 1 in 20000 dilutions, respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-LAIR1 antibody [EPR24745-12A] (ab315967) at 1/1000 dilution

Lane 1:
THP-1 cell lysate at 20 µg

Lane 2:
HeLa cell lysate

Secondary

Lanes 1 - 2:
Goat anti-Rabbit IgG H&L (IRDye® 800CW) at 1/20000 dilution

Lanes 1 - 2:
Goat anti-Mouse IgG H&L (IRDye® 680RD) at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 40 kDa, 50 kDa

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