abcam

ab228411

Anti-LAG-3/CD223 antibody [EPR20294-96]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20294-96
Purification technique	Affinity purification Protein A
Concentration	0.615 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Target data

See full target information LAG-3/CD223

Function	Lymphocyte activation gene 3 protein. Inhibitory receptor on antigen activated T-cells (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887, PubMed:30580966, PubMed:35413245, PubMed:35761082, PubMed:38483996, PubMed:39209860). Delivers inhibitory signals upon binding to ligands, such as MHC class II, its main ligand present at the surface of antigen-presenting cells (APCs), and FGL1, which is secreted by hepatocytes and certain types of tumor cells (PubMed:12209638, PubMed:12421911, PubMed:30349037, PubMed:30580966, PubMed:35413245, PubMed:35761082, PubMed:39209860). Ligand-binding initiates a signaling that inhibits the T-cell receptor (TCR) in the immunological synapse, preventing T-cell activation (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887). Mechanistically, ligand-binding promotes (1) ubiquitination of the KIEELE motif, unleashing the RRFSALE motif from the membrane and (2) leading to the formation of condensates with the TCR component CD3E, thereby disrupting the association between CD3E and LCK and preventing TCR activation (PubMed:40101708, PubMed:40592325). May inhibit antigen-specific T-cell activation in synergy with PDCD1/PD-1 (PubMed:21300912). Negatively regulates the proliferation, activation, effector function and homeostasis of both CD8(+) and CD4(+) T-cells (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887). Also mediates immune tolerance: constitutively expressed on a subset of regulatory T-cells (Tregs) and contributes to their suppressive function (PubMed:15485628). Also acts as a negative regulator of plasmacytoid dendritic cell (pDCs) activation (PubMed:19201841). The LAG3-mediated inhibitory pathway is exploited by tumors to attenuate anti-tumor immunity and escape destruction by the immune system, thereby facilitating tumor survival. Secreted lymphocyte activation gene 3 protein. May function as a ligand for MHC class II (MHC-II) on antigen-presenting cells (APC), promoting APC activation/maturation and driving Th1 immune response.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	LAG-3 also known as CD223 is a transmembrane protein with a mass of approximately 70 kDa. It acts as a checkpoint molecule similar to CTLA-4 and PD-1 in the immune system. LAG-3 is expressed on activated T cells natural killer cells and some dendritic cells. It interacts with its ligand MHC class II leading to inhibition of cellular proliferation and cytokine secretion an important part of immune response regulation.
Biological function summary	LAG-3 is involved in maintaining immune homeostasis and preventing autoimmunity. It is not part of a complex but works in synergy with other immune checkpoint molecules. When interacting with MHC class II LAG-3 transmits inhibitory signals that attenuate immune cell responses. Its role in immune regulation helps to balance immune activation and tolerance which is essential for preventing tissue damage while protecting against pathogens.
Pathways	The inhibitory role of LAG-3 integrates into the T cell receptor (TCR) signaling pathway and is also linked to the PD-1 signaling pathway. In TCR signaling LAG-3 negatively regulates T cell activation. LAG-3 is functionally related to proteins like PD-1 and CTLA-4 sharing similar roles in immune checkpoint pathways that are critical for maintaining immune balance.
Associated diseases and disorders	LAG-3 has links to cancer and autoimmune diseases. In cancer LAG-3 expression on tumor-infiltrating lymphocytes correlates with immune evasion by tumors. This relationship appears in various cancers including melanoma and renal cell carcinoma. In autoimmune diseases LAG-3's expression on regulatory T cells helps control conditions such as multiple sclerosis. It collaborates with CTLA-4 in modulating immune responses that prevent excessive immune activation and tissue damage associated with autoimmunity.

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.

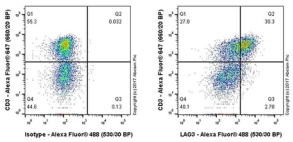
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Flow Cytometry - Anti-LAG-3/CD223 antibody [EPR20294-96] (ab228411)

LAG-3/CD223 Flow Cytometry staining using rabbit Anti-LAG-3/CD223 antibody

Flow cytometric analysis of mouse primary splenocytes treated with 2.5µg/ml concanavalin A for 72h labeling LAG-3 with ab228411 at 1/600 dilution (right) compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (ab172730)(left). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
Mouse primary splenocytes treated with 2.5µg/ml concanavalin A for 72h then surface stained with anti-mouse CD3 (Y axis) and ab228411. Only CD3+ population gives a positive signal for Lymphocyte Activation Gene 3. Gated on total viable cells.

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