abcam

ab225484

PE Anti-LAG-3/CD223 antibody [EPR20261]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20261
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/1000

Notes	**The cellular localisation of this product has been verified in ICC/IF.**

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	**The cellular localisation of this product has been verified in ICC/IF.**

ICC/IF

Expected

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

IHC-P

Expected

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

Target data

See full target information LAG-3/CD223

Function	Lymphocyte activation gene 3 protein. Inhibitory receptor on antigen activated T-cells (PubMed:20421648, PubMed:35761082, PubMed:7805750, PubMed:8647185). 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:30580966, PubMed:32920841, PubMed:35761082, PubMed:39671469, PubMed:7589152, PubMed:8647185, PubMed:9159144). Ligand-binding initiates a signaling that inhibits the T-cell receptor (TCR) in the immunological synapse, preventing T-cell activation (PubMed:40101708). 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 (By similarity). Negatively regulates the proliferation, activation, effector function and homeostasis of both CD8(+) and CD4(+) T-cells (PubMed:20421648, PubMed:7805750, PubMed:8647185). Also mediates immune tolerance: constitutively expressed on a subset of regulatory T-cells (Tregs) and contributes to their suppressive function (By similarity). Also acts as a negative regulator of plasmacytoid dendritic cell (pDCs) activation (By similarity). 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 (PubMed:35981087, PubMed:40101708). The blockage of the LAG3- and PDCD1-mediated pathways results in the reversal of the exhausted T-cell phenotype and the normalization of the anti-tumor response, providing a rationale for cancer immunotherapy (PubMed:35981087, PubMed:40101708). 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	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Store in the dark

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

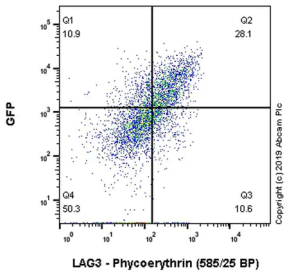
We do not recommend this combination. It is not covered by our product promise.

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.

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

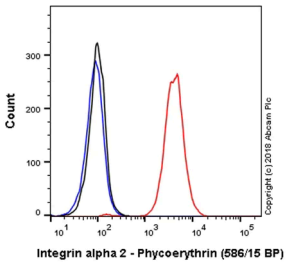
2 product images



Flow Cytometry - PE Anti-LAG-3/CD223 antibody [EPR20261] (ab225484)

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

Flow cytometric analysis of HEK-293T (Human epithelial cell line from embryonic kidney) cells transfected with a GFP-tagged human LAG3 construct labelling LAG-3 with ab225484 at 1/50 dilution.
Note: Fresh cells without fixation and permeabilization were used to perform FC testing. Only GFP positive population results in LAG3 positive staining (Q2).



Flow Cytometry (Intracellular) - PE Anti-LAG-3/CD223 antibody [EPR20261] (ab225484)

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

Overlay histogram showing A431 cells stained with ab225284 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab225484, 1/1000 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was Rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50 mW Yellow/Green laser (561nm) and 586/15 bandpass filter.

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