abcam

ab23624

Anti-CD161 antibody [B199.2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing KLRB1 protein. The exact immunogen used to generate this antibody is proprietary information. Database link Q12918
Clone number	B199.2
Purification technique	Affinity purification Protein G
Specificity	ab23624 recognises CD161 cell surface antigen, expressed by almost all NK cells and with a small subset of CD3 positive T cells.
Epitope	Clone B199.2 recognises a similar epitope to the DX9 monoclonal antibody.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	-
Notes	Use 10ul for 10^6 cells in 100ul, or 1/50 - 1/100. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-Fr

Expected

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

Target data

See full target information KLRB1

Function	Plays an inhibitory role on natural killer (NK) cells cytotoxicity. Activation results in specific acid sphingomyelinase/SMPD1 stimulation with subsequent marked elevation of intracellular ceramide. Activation also leads to AKT1/PKB and RPS6KA1/RSK1 kinases stimulation as well as markedly enhanced T-cell proliferation induced by anti-CD3. Acts as a lectin that binds to the terminal carbohydrate Gal-alpha(1,3)Gal epitope as well as to the N-acetyllactosamine epitope. Also binds to CLEC2D/LLT1 as a ligand and inhibits NK cell-mediated cytotoxicity as well as interferon-gamma secretion in target cells.

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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Myeloma cell line: P2X63.Ag8.653

Supplementary info

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

Activity summary	CD161 also known as NKRP1A or KLRB1 is a type II transmembrane protein expressed primarily on natural killer (NK) cells and subsets of T cells. Weighing approximately 30-40 kDa CD161 functions as a C-type lectin receptor involved in the immune response. Its expression can be detected in various tissues including the liver and spleen. Researchers utilize tools such as mouse CD161 PE as well as CD161 APC antibodies for study of its cell surface expression and role in immune modulation.
Biological function summary	CD161 plays a role in immune system regulation by mediating NK cell and T cell activity. It does not operate as part of a complex but interacts with other cellular receptors to modulate immune responses. For example it serves as an inhibitory receptor often through engagement with its ligand LLT1 to temper immune responses and prevent overactivation. This balance is key to maintaining immune homeostasis and facilitates pathogen clearance while avoiding excessive tissue damage.
Pathways	CD161 is involved in the immune checkpoint pathways and is linked to inflammatory response signaling. These pathways play an important role in the immune system's ability to discern self from non-self determining the intensity and character of the body's defense mechanisms. Other proteins such as CTLA-4 and PD-1 also function within these pathways contributing to the regulation of immune cell activity and preventing autoimmunity.

Associated diseases and disorders	CD161 is associated with inflammatory diseases and cancer. Its involvement in immune checkpoints implicates it in conditions such as autoimmune diseases where it may fail to properly regulate immune activity including multiple sclerosis. In cancer CD161 expression on T cells has been examined in the context of its inhibitory role potentially modulating the immune system's ability to target tumor cells effectively. In these scenarios its interaction with LLT1 and other immune checkpoint proteins influences the disease course and therapeutic outcomes.

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.

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