abcam

ab302564

Anti-CD161 antibody [EPR26340-6]

Recombinant | RabMAb | Advanced Validation | 20ul selling size

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	EPR26340-6
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

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

mIHC

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

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	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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	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.

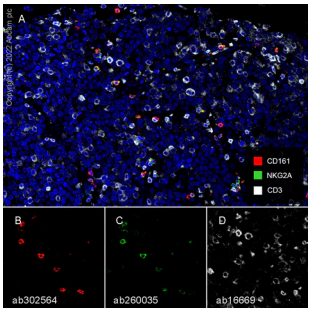
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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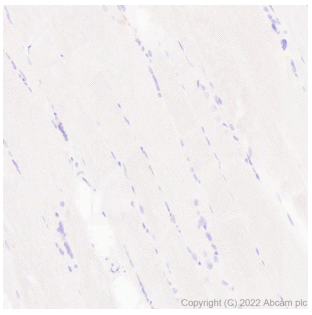
9 product images



Multiplex immunohistochemistry - Anti-CD161 antibody [EPR26340-6] (ab302564)

CD161 Multiplex immunohistochemistry staining using rabbit Anti-CD161 antibody

Multiplex immunohistochemical analysis of formalin/PFA-fixed paraffin-embedded sections of human NK-T lymphoma tissue labeling CD-161 with ab302564 at 1:100 dilution (4.96 µg/mL) colored in red (Opal™570, red). Panel A: merged staining of anti-CD3 (ab16669, grey; Opal™690), anti-CD161(ab302564, red; Opal™570) and anti-NKG2A (ab260035, green; Opal™520) on human NK-T lymphoma. Panel B: anti-CD161 staining only. ab302564 (Opal™ 570, Red) at 1/100 dilution (4.96 µg/mL) Panel C: anti-NKG2A staining only. ; ab260035, (Opal™ 520, Green) NKG2A at 1/2000 dilution (0.283 µg/mL) Panel D: anti-CD3 staining only. CD3 staining only; ab16669 (Opal™ 690, Gray) at 1/2000 dilution (0.0675 µg/mL) The section was incubated in three rounds of staining: in the order of ab16669 for 30 mins, ab302564 for 30 mins and ab260035 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Nuclear stained with DAPI. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins was used. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

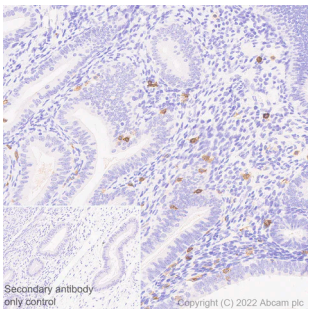


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD161 antibody [EPR26340-6] (ab302564)

CD161 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal muscl using rabbit Anti-CD161 antibody

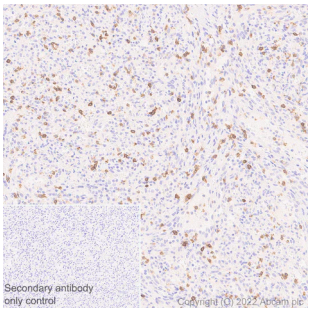
Immunohistochemical analysis of paraffin-embedded Human skeletal muscl tissue labeling CD161 with ab302564 at 1/100 (4.96 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Negative control: no staining on human skeletal muscle. The section was incubated with ab302564 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒

Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



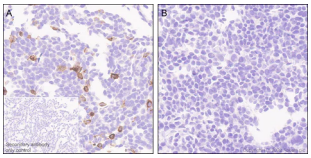
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD161 antibody [EPR26340-6] (ab302564)

Immunohistochemical analysis of paraffin-embedded Human endometrium tissue labeling CD161 with ab302564 at 1/100 (4.96 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Positive staining on immune cells of human endometrium. The section was incubated with ab302564 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



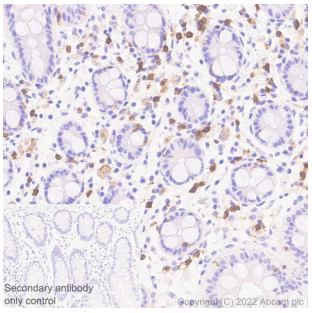
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD161 antibody [EPR26340-6] (ab302564)

Immunohistochemical analysis of paraffin-embedded Human spleen tissue labeling CD161 with ab302564 at 1/100 (4.96 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Positive staining on human spleen. The section was incubated with ab302564 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



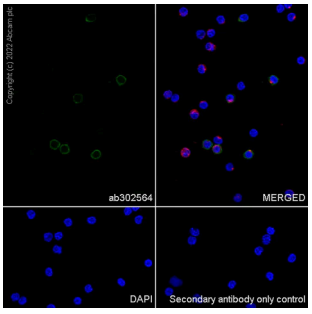
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD161 antibody [EPR26340-6] (ab302564)

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T ((human tissue labeling CD161 with ab302564 at 1/100 (4.96 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Positive staining on (A) HEK-293T transfected with a Myc-His tagged CD161 construct, no staining on (B) HEK-293T transfected with empty plasmid. The section was incubated with ab302564 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



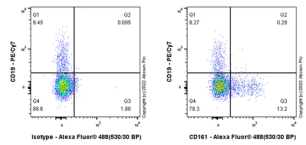
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD161 antibody [EPR26340-6] (ab302564)

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling CD161 with ab302564 at 1/100 dilution (4.96 µg/mL) followed by a ready to use Leica DS9800 (BOND™ Polymer Refine Detection kit). Positive staining on immune cells of human colon. The section was incubated with ab302564 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Leica DS9800 (BOND™ Polymer Refine Detection kit). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins was used.



Immunocytochemistry/ Immunofluorescence - Anti-CD161 antibody [EPR26340-6] (ab302564)

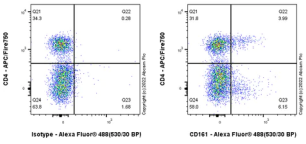
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC (human peripheral blood mononuclear cell) cells labelling CD161 with ab302564 at 1/50 (9.92 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/mL dilution (Green). Confocal image showing membrane and cytoplasmic staining in subsets of human PBMC. is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.



Flow Cytometry - Anti-CD161 antibody [EPR26340-6] (ab302564)

CD161 Flow Cytometry staining using rabbit Anti-CD161 antibody

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling CD161 with ab302564 at 1/500 dilution (0.1ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Negative control: B lymphocytes (CD19+). Gated on viable cells.



Flow Cytometry - Anti-CD161 antibody [EPR26340-6] (ab302564)

CD161 Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-CD161 antibody

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling CD161 with ab302564 at 1/500 dilution (0.1ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Cells were co-stained with anti-CD4 conjugated to APC/Fire™ 750. Gated on viable cells.

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