abcam

ab260035

Anti-NKG2A antibody [EPR23737-127]

Anti-NKG2A antibody [EPR23737-127] (ab260035) is a rabbit monoclonal antibody detecting NKG2A in **Western Blot, Flow Cytometry (Intra), IHC-P, mIHC**. Suitable for **Human**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

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	EPR23737-127
Purification technique	Affinity purification Protein A
Concentration	0.57 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human

Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Transfected cell lysate, Mouse, Rat, Transfected cell line
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate
Dilution info	1/1000
Notes	-

Expected

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

Not recommended

Species	Mouse, Rat, Transfected cell line
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	-

Not recommended

Species	Transfected cell lysate, Mouse, Rat, Transfected cell line
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell line
Dilution info	1/2000
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	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell lysate
Dilution info	-
Notes	-

Target data

See full target information KLRC1

Function	Immune inhibitory receptor involved in self-nonself discrimination. In complex with KLRD1 on cytotoxic and regulatory lymphocyte subsets, recognizes non-classical major histocompatibility (MHC) class Ib molecule HLA-E loaded with self-peptides derived from the signal sequence of classical MHC class Ia molecules. Enables cytotoxic cells to monitor the expression of MHC class I molecules in healthy cells and to tolerate self (PubMed:18083576, PubMed:37264229, PubMed:9430220, PubMed:9486650). Upon HLA-E-peptide binding, transmits intracellular signals through two immunoreceptor tyrosine-based inhibition motifs (ITIMs) by recruiting INPP5D/SHP-1 and INPPL1/SHP-2 tyrosine phosphatases to ITIMs, and ultimately opposing signals transmitted by activating receptors through dephosphorylation of proximal signaling molecules (PubMed:12165520, PubMed:9485206). Key inhibitory receptor on natural killer (NK) cells that regulates their activation and effector functions (PubMed:30860984, PubMed:9430220, PubMed:9485206, PubMed:9486650). Dominantly counteracts T cell receptor signaling on a subset of memory/effector CD8-positive T cells as part of an antigen-driven response to avoid autoimmunity (PubMed:12387742). On intraepithelial CD8-positive gamma-delta regulatory T cells triggers TGFB1 secretion, which in turn limits the cytotoxic programming of intraepithelial CD8-positive alpha-beta T cells, distinguishing harmless from pathogenic antigens (PubMed:18064301). In HLA-E-rich tumor microenvironment, acts as an immune inhibitory checkpoint and may contribute to progressive loss of effector functions of NK cells and tumor-specific T cells, a state known as cell exhaustion (PubMed:30503213, PubMed:30860984). (Microbial infection) Viruses like human cytomegalovirus have evolved an escape mechanism whereby virus-induced down-regulation of host MHC class I molecules is coupled to the binding of viral peptides to HLA-E, restoring HLA-E expression and inducing HLA-E-dependent NK cell immune tolerance to infected cells. Recognizes HLA-E in complex with human cytomegalovirus UL40-derived peptide (VMAPRTLIL) and inhibits NK cell cytotoxicity. (Microbial infection) May recognize HLA-E in complex with HIV-1 gag/Capsid protein p24-derived peptide (AISPRTLNA) on infected cells and may inhibit NK cell cytotoxicity, a mechanism that allows HIV-1 to escape immune recognition. (Microbial infection) Upon SARS-CoV-2 infection, may contribute to functional exhaustion of cytotoxic NK cells and CD8-positive T cells (PubMed:32203188, PubMed:32859121). On NK cells, may recognize HLA-E in complex with SARS-CoV-2 S/Spike protein S1-derived peptide (LQPRTFLL) expressed on the surface of lung epithelial cells, inducing NK cell exhaustion and dampening antiviral immune surveillance (PubMed:32859121).

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

What is this antibody validated in?
Anti-NKG2A antibody [EPR23737-127] (ab260035) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Multiplex IHC (mIHC) in Human samples.

What is the molecular weight of NKG2A?
Anti-NKG2A [EPR23737-127] (ab260035) specifically detects a band for NKG2A (UniProt: P26715) at a molecular weight of 26kDa.

Other related products
We have a range of other formats of antibody clone [EPR23737-127] also available for your convenience: ab260035, Carrier free - ab273516, Alexa Fluor® 647 - ab300745, PE - ab323435

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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.

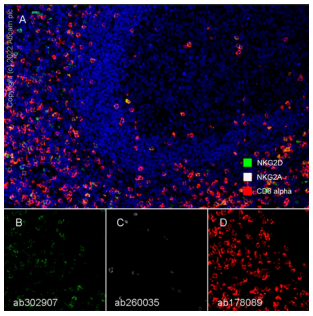
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

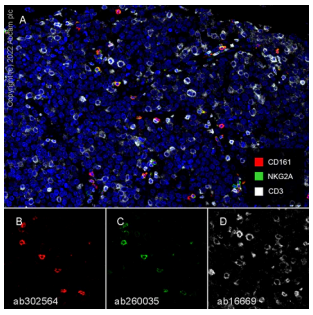
---

9 product images



Multiplex immunohistochemistry - Anti-NKG2A antibody [EPR23737-127] (ab260035)

Multichannel (Multiplex) immunohistochemistry analysis of Formalin/PFA-fixed paraffin-embedded sections of human tonsil tissue labeling NKG2D, NKG2a, and CD8 alpha. Panel A: merged staining of anti-CD8 alpha (red; Opal™690), anti-NKG2A (gray; Opal™520) and anti-NKG2D (green; Opal™570) on human tonsil. Panel B: anti-NKG2D (ab302907 at 1:2000 dilution (0.258 µg/ml)) signal on NK cells and T cell subsets. Panel C: anti-NKG2A (ab260035 at 1:2000 dilution (0.283 µg/ml)) signal on NK cells. Panel D: anti-CD8 alpha (ab178089 at 1:100 dilution (0.83 µg/ml)) signal on T cell subsets. Opal Polymer HRP Ms + Rb was used as secondary antibody. The section was incubated in three rounds of staining: in the order of ab178089, ab260035, and ab302907 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. Nuclear counterstain was DAPI. 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.

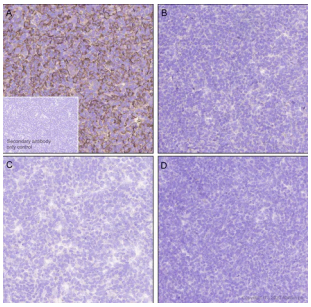


Multiplex immunohistochemistry - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Multiplex immunohistochemistry staining using rabbit Anti-NKG2A 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

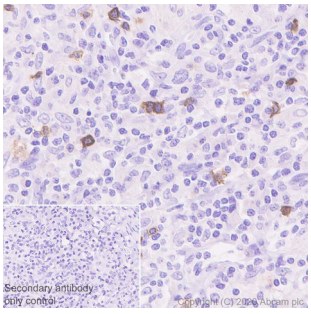
dilution (0.283 µg/mL) Panel D: anti-CD3 staining only. CD3 staining only; ab16669 (Opal™ 690, Gray) at 1/2000 dilution (0.0675 µg/mL) The section was incubated in three rounds of staining: in the order of ab16669 for 30 mins, ab302564 for 30 mins and ab260035 for 30 mins at room temperature. Each round 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-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NKG2A antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of HEK-293 tissue labelling (A) - HEK-293 transfected with NKG2A expression vector containing a myc-His-tag®, (B) - HEK-293 transfected with NKG2C expression vector containing a myc-His-tag®, (C) - HEK-293 transfected with NKG2E expression vector containing a myc-His-tag® whole cell pellets and (D) - HEK-293 transfected with an empty vector with ab260035 at 1/200 dilution. Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins, Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.
Positive staining on (A) HEK-293 transfected with NKG2A expression vector containing a myc-His-tag®, whole cell pellet. No staining on (B) HEK-293 transfected with NKG2C expression vector containing a myc-His-tag®, whole cell pellet and (C) HEK-293 transfected with NKG2E expression vector containing a myc-His-tag®, whole cell pellet. and (D) HEK-293 transfected with an empty vector.
The section was incubated with ab260035 for30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

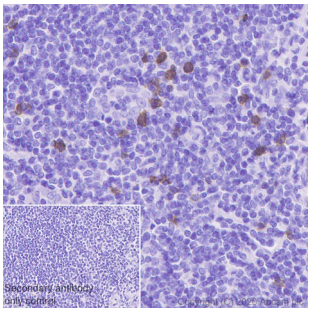


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NKG2A antibody

Immunohistochemical analysis of paraffin-embedded Human gastric cancer tissue labeling NKG2A with ab260035 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human gastric cancer (PMID: 11222501).The section was incubated with ab260035 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 Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

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

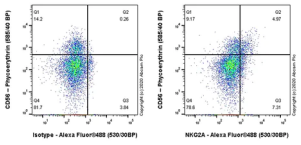


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NKG2A antibody

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling NKG2A with ab260035 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human tonsil (PMID: 11222501). The section was incubated with ab260035 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 Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

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

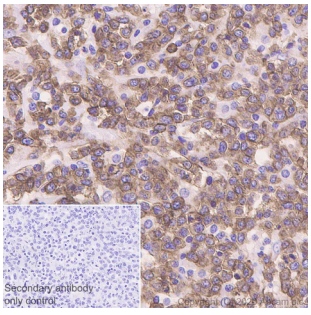


Flow Cytometry (Intracellular) - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Flow Cytometry (Intracellular) staining using rabbit Anti-NKG2A antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde fixed, 0.1% Tween-20 permeabilized Human peripheral blood mononuclear cell (PBMC) cells labelling NKG2A with ab260035 at 1/500 dilution (0.1ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left).
A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Cells were stained with anti-CD56 conjugated to PE, then fixed with 2% PFA followed by intracellularly stained with rabbit IgG (Left) or ab260035 (Right).

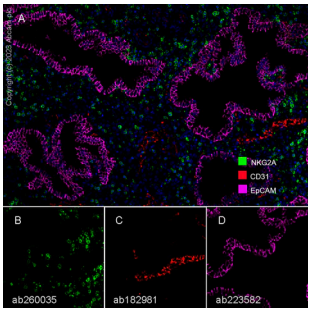


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NKG2A antibody

Immunohistochemical analysis of paraffin-embedded Human NK cell lymphoma tissue labeling NKG2A with ab260035 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human NK cell lymphoma (PMID: 11222501).The section was incubated with ab260035 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 Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

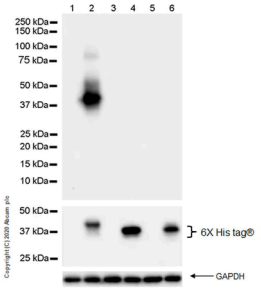
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-NKG2A antibody [EPR23737-127] (ab260035)

NKG2A Multiplex immunohistochemistry staining of Human endometrium tissue using rabbit Anti-NKG2A antibody

Fluorescence multiplex immunohistochemical analysis of the human endometrium (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-EpCAM (ab223582, magenta; Opal™690), anti-NKG2A (ab260035, green; Opal™520) and anti-CD31 (ab182981, red; Opal™570) on human endometrium. Panel B: anti-NKG2A stained on NK cells. Panel C: anti-CD31 stained on endothelial cells. Panel D: anti-EpCAM stained on glandular cells. Opal Polymer HRP Ms + Rb was used as a secondary antibody. The section was incubated in three rounds of staining: in the order of ab223582 at 1/500 dilution (1.008 µg/ml), ab260035 at 1/2000 dilution (0.262 µg/ml) and ab182981 at 1/4000 dilution (0.137 µg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. 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. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.



Western blot - Anti-NKG2A antibody [EPR23737-127] (ab260035)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
Exposure time: 3 seconds.

All lanes:
Western blot - Anti-NKG2A antibody [EPR23737-127] (ab260035) at 1/5000 dilution

Lanes 1, 3 and 5:
HEK-293 (human embryonic kidney) transfected with an empty vector (vector control), containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 2:
HEK-293 transfected with NKG2A (WT) expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 4:
HEK-293 transfected with NKG2C (WT) expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 6:
HEK-293 transfected with NKG2E (WT) expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/50000 dilution

Predicted band size: 26 kDa

Observed band size: 38 kDa

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