abcam

ab321794

Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR28146-94
Purification technique	Affinity purification Protein A
Concentration	0.967 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information TIGIT

Function	Inhibitory receptor that plays a role in the modulation of immune responses. Suppresses T-cell activation by promoting the generation of mature immunoregulatory dendritic cells (PubMed:19011627). Upon binding to its ligands PVR/CD155 or NECTIN2/CD112, which are expressed on antigen-presenting cells, sends inhibitory signals to the T-cell or NK cell. Mechanistically, interaction with ligand leads to phosphorylation of the cytoplasmic tail by Src family tyrosine kinases such as FYN or LCK, allowing subsequent binding to adapter GRB2 and SHIP1/INPP5D. In turn, inhibits PI3K and MAPK signaling cascades (PubMed:23154388). In addition, associates with beta-arrestin-2/ARRB2 to recruit SHIP1/INPP5D that suppresses autoubiquitination of TRAF6 and subsequently inhibits NF-kappa-B signaling pathway (PubMed:24817116). Also acts as a receptor for NECTIN4 to inhibit NK cell cytotoxicity (PubMed:32503945).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab321794 is the carrier-free version of ab321793.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody

preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	TIGIT also known as T cell immunoreceptor with Ig and ITIM domains is an immunoglobulin superfamily receptor. It weighs approximately 26 kDa. TIGIT commonly expresses on T cells especially on regulatory T cells (Tregs) and effector memory T cells. It also presents on natural killer (NK) cells. Among its alternate forms some notable ones also include the anti-TIGIT and biotinylated TIGIT antibodies used in experimental research to monitor immune responses.
Biological function summary	TIGIT acts as an inhibitory receptor modulating immune responses. It belongs to the CD28 family and binds to poliovirus receptor (PVR) and nectin-2 on antigen-presenting cells. This interaction inhibits T cell activation and proliferation and increases Treg cell activity maintaining immune homeostasis. TIGIT forms a complex with other inhibitory receptors like PD-1 2B4 and CD96 to further regulate immune functions.
Pathways	The interaction of TIGIT with its ligands significantly affects the immune checkpoint pathway. This involvement regulates T cell and NK cell activity. TIGIT is related to CD226 (DNAM-1) which competes for binding to its ligands influencing cellular signaling pathways. Through these pathways TIGIT signals through the downstream SHP-1 and SHP-2 proteins affecting immune cell signaling and response.
Associated diseases and disorders	TIGIT has implications in cancer and autoimmune diseases. Its inhibitory function can allow tumor progression by dampening effective anti-tumor immunity. In cancer TIGIT's activity often pairs with PD-1 both contributing to immune checkpoint blockade resistance necessary for tumor evasion. In autoimmune diseases increased TIGIT expression could result in reduced immune cell attack against self tissues showing its potential to modulate treatment strategies.

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

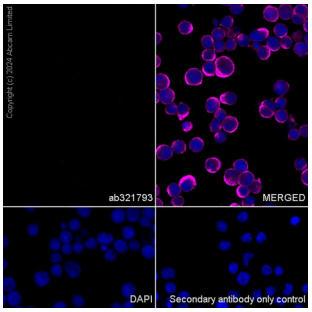
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images



Immunocytochemistry/ Immunofluorescence - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

TIGIT Immunocytochemistry/ Immunofluorescence staining of HDLM-2 (human Hodgkin lymphoma cell) using rabbit Anti-TIGIT antibody

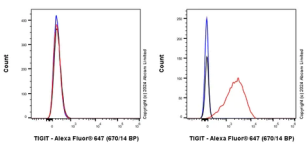
This data was developed using ab321793, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized HDLM-2 (human Hodgkin lymphoma cell) cells labelling TIGIT with ab321793 at 1/100 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Low expression: Confocal image showing no staining in HDLM-2 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Magenta). 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 dilution.



Flow Cytometry - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

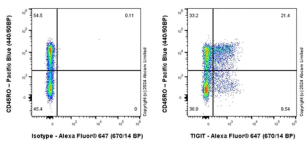
TIGIT Flow Cytometry staining using rabbit Anti-TIGIT antibody

This data was developed using ab321793, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of No-GFP-CD16.NK-92 (CD16 ectopically expressed natural killer(NK-92®) cell with no GFP tag) (right) / PC-3 (human prostate adenocarcinoma epithelial cell) (Left) cells labelling TIGIT with ab321793 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.
Negative control: PC-3.



Flow Cytometry - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

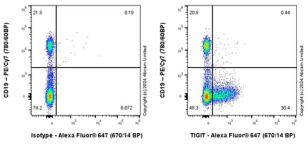
TIGIT Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-TIGIT antibody

This data was developed using ab321793, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling TIGIT with ab321793 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).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti human CD45RO conjugated to Pacific Blue.
Gated on viable CD3+ T Lymphocytes.



Flow Cytometry - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

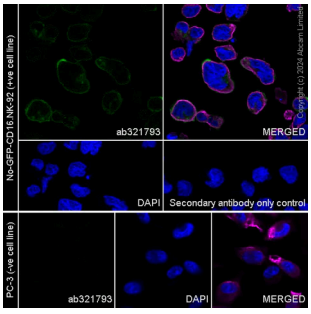
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Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling TIGIT with ab321793 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti human CD19 conjugated to PE/Cy7 (780/60BP).
Gated on viable leukomonocyte.



Immunocytochemistry/ Immunofluorescence - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

TIGIT Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TIGIT antibody

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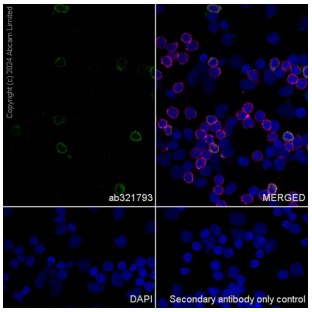
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized No-GFP-CD16.NK-92 (CD16 ectopically expressed natural killer(NK-92®) cell with no GFP tag) cells

labelling TIGIT with ab321793 at 1/100 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing membranous staining in No-GFP-CD16.NK-92 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Negative control: PC-3.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Magenta). 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 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

TIGIT Immunocytochemistry/ Immunofluorescence staining of Human PBMC (human primary peripheral blood mononuclear cell) using rabbit Anti-TIGIT antibody

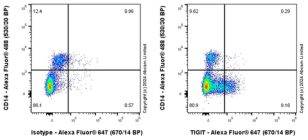
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized Human PBMC (human primary peripheral blood mononuclear cell) cells labelling TIGIT with ab321793 at 1/100 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in subsets of human PBMCs (shown in green), which is partial co-stain with CD3, the T cell maker. The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-human CD3 mouse monoclonal antibody (Alexa Fluor® 647) was used to counterstain tubulin at 1/200 dilution (Magenta). 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 dilution.



Flow Cytometry - Anti-TIGIT antibody [EPR28146-94] - BSA and Azide free (ab321794)

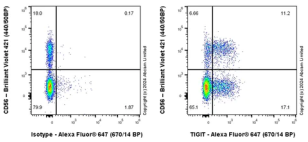
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Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling TIGIT with ab321793 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti human CD14 conjugated to Alexa Fluor®488.
Gated on viable cell.



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

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Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti human CD56 conjugated to Alexa BV421 (440/50BP).
Gated on viable Lymphocytes.

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