abcam

ab283292

Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR24770-16
Purification technique	Affinity purification Protein A
Concentration	1.053 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information TGOLN2

Function	May be involved in regulating membrane traffic to and from trans-Golgi network.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab283292 is the carrier-free version of ab271183.

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	TGN46 also known as trans-Golgi network protein 46 is an important membrane protein associated with the trans-Golgi network. The protein has a mass of approximately 46 kDa and plays a role in the sorting and trafficking of proteins to their proper destinations within the cell. TGN46 is widely expressed in various cell types and is commonly used as a Golgi marker in cell biology studies helping to identify Golgi apparatus in cells.
Biological function summary	The protein TGN46 functions in the sorting and transport mechanisms within the cell. It does not function as a part of a large macromolecular complex but it interacts with several other proteins to facilitate the movement of proteins from the Golgi to other sites within the cell. The protein also associates with trafficking

	components to ensure the correct delivery of proteins to the plasma membrane or lysosomes.
Pathways	The role of TGN46 involves participation in intracellular transport and protein trafficking pathways. It interacts with clathrin-coated vesicles and works closely with proteins such as gamma-adaptin and epsin which are important for vesicle formation and transport. These interactions highlight its involvement in protein secretion and membrane transport pathways which are essential for maintaining cellular homeostasis.
Associated diseases and disorders	TGN46 appears to have connections to neurodegenerative diseases and certain forms of cancer although the mechanisms are not fully understood. Alterations in TGN46 have been observed in Alzheimer's disease where it may intersect with proteins like amyloid precursor protein (APP) in protein misfolding and aggregation pathways. Additionally changes in TGN46 expression levels have been implicated in prostate cancer potentially due to its role in protein sorting and dysregulation of cellular trafficking processes.

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

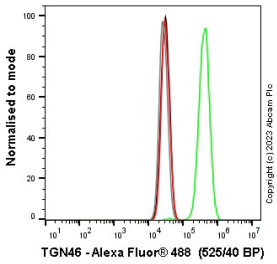
We do not recommend this combination. It is not covered by our product promise.

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



Flow Cytometry (Intracellular) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Flow Cytometry (Intracellular) staining using rabbit Anti-TGN46 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab271183).

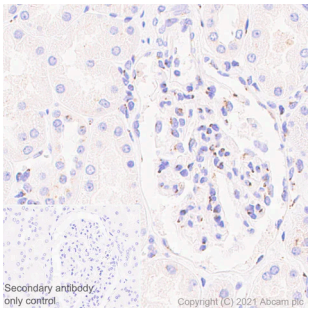
Flow cytometry overlay histogram showing wild-type A549 (green line) and TGOLN2 knockout A549 stained with ab271183 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab271183) (1x 106 in 100µl at 1.0 µg/ml (1/1980)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control was used at the same concentration and conditions as the primary antibody (wild-type A549 - black line, TGOLN2 knockout A549 - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

This antibody gave a positive signal in A549 Fixed with 4% formaldehyde (10 min) / permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.



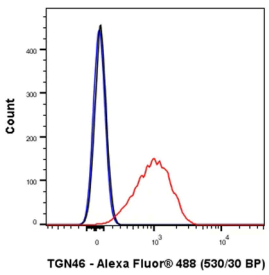
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labelling TGN46 with ab271183 at 1/2000 (0.297 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in human kidney. The section was incubated with ab271183 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).

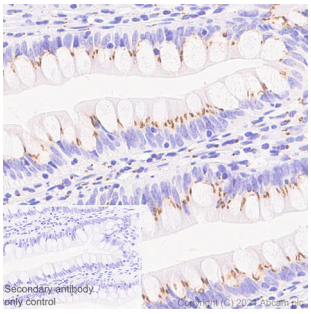
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Flow Cytometry (Intracellular) staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) cells labelling TGN46 with ab271183 at 1/50 dilution (1 µg)/ (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). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



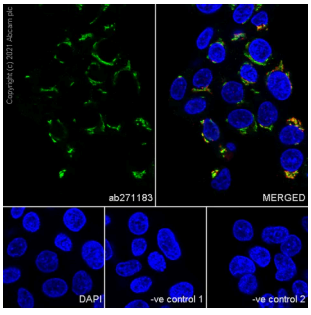
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human colon tissue labelling TGN46 with ab271183 at 1/2000 (0.297 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in human colon. The section was incubated with ab271183 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).

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



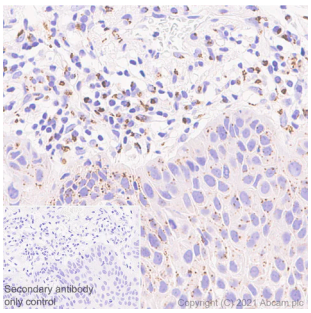
Immunocytochemistry/ Immunofluorescence - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HepG2 cells labelling TGN46 with ab271183 at 1/50 (11.88 µg/mL) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 µg/mL) dilution (Green). Confocal image showing co-locolization staining with golgi marker in HepG2 cells is observed. ab169276 Anti-GM130 mouse polyclonal antibody - cis-Golgi Marker was used to counterstain tubulin at 1/200 (5 µg/mL) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Negative Control 1: Secondary antibody only control: ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/mL) dilution.

Negative Control 2: ab169276 Anti-GM130 mouse polyclonal antibody - cis-Golgi Marker 1/200 (5 µg/ml) and Secondary antibody ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/mL) dilution.



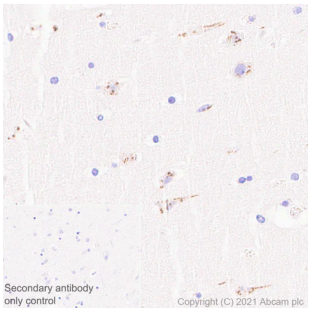
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labelling TGN46 with ab271183 at 1/2000 (0.297 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in human lung carcinoma. The section was incubated with ab271183 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).

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



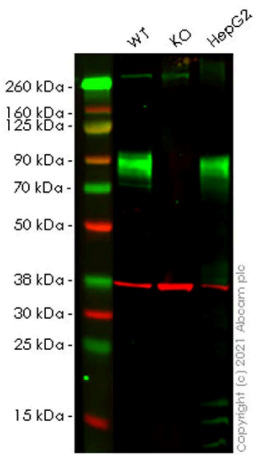
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labelling TGN46 with ab271183 at 1/2000 (0.297 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in human cerebrum. The section was incubated with ab271183 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).

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



Western blot - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Western blot staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 3% NFDM/TBST.

Lanes 1-3: Merged signal (red and green).

Green: ab271183 observed at 80-100 kDa.

Red: loading control ab8245 (Mouse monoclonal [6C5] to GAPDH) observed at 36 kDa.

Lanes 1-2: ab271183 was shown to react with TGN46 in wild-type A549 cells in Western blot with loss of signal observed in TGN46 knockout cell line ab269510 (knockout cell lysate ab269672). Wild-type A549 and TGN46 knockout cell lysates were subjected to SDS-PAGE.

ab271183 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at 4°C overnight at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-TGN46 antibody [EPR24770-16] - Golgi Marker (ab271183) at 1/1000 dilution

Lane 1:
Wild-type A549 (human lung carcinoma epithelial cell) whole cell lysate at 40 µg

Lane 2:
TGOLN2 (TGN46) knockout A549 (human lung carcinoma epithelial cell) whole cell lysate at 40 µg

Lane 2:
Western blot - Human TGOLN2 (TGN46) knockout A549 cell line (ab269510)

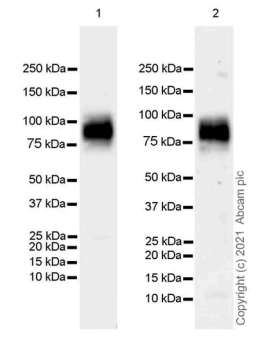
Lane 3:
HepG2 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (ab216773) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (ab216776) at a 1/10000 dilution.

Predicted band size: 51 kDa

Observed band size: 80-100 kDa



Western blot - Anti-TGN46 antibody [EPR24770-16] - BSA and Azide free (ab283292)

TGN46 Western blot staining using rabbit Anti-TGN46 antibody

This data was developed using ab271183, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:15616480; PMID: 22909819).

Lysates were made freshly and used in WB immediately to minimize protein degradation.

Exposure time: Lane 1: 26 seconds; Lane 2: 125 seconds.
All lanes:
Western blot - Anti-TGN46 antibody [EPR24770-16] - Golgi Marker (ab271183) at 1/1000 dilution

Lane 1:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
A549 (human lung carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 51 kDa

Observed band size: 80-100 kDa

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