abcam

ab210826

Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric)

Recombinant | 20ul selling size

Key facts

Isotype	IgG2b
Host species	Mouse
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	EPR14774
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1.034 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1-5 µg/mL

Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1-5 µg/mL
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

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

WB

Tested

Species	Mouse
Dilution info	5 µg/mL
Notes	-

Species	Rat
Dilution info	5 µg/mL
Notes	-

Species	Human
Dilution info	5 µg/mL
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1-5 µg/mL
Notes	-

Species	Human
Dilution info	1-5 µg/mL
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information TXNIP

Function	May act as an oxidative stress mediator by inhibiting thioredoxin activity or by limiting its bioavailability (PubMed:17603038). Interacts with COPS5 and restores COPS5-induced suppression of CDKN1B stability, blocking the COPS5-mediated translocation of CDKN1B from the nucleus to the cytoplasm (By similarity). Functions as a transcriptional repressor, possibly by acting as a bridge molecule between transcription factors and corepressor complexes, and over-expression will induce G0/G1 cell cycle arrest (PubMed:12821938). Required for the maturation of natural killer cells (By similarity). Acts as a suppressor of tumor cell growth (PubMed:18541147). Inhibits the proteasomal degradation of DDIT4, and thereby contributes to the inhibition of the mammalian target of rapamycin complex 1 (mTORC1) (PubMed:21460850).

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

This mouse monoclonal chimeric antibody has been engineered from a RabMAb parent antibody (ab188865). By necessity, some rabbit sequence is retained as part of the variable domain. When multiplexing with other rabbit-derived antibodies, using cross absorbed Fc-reactive secondary antibodies are recommended.

Supplementary info

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

Activity summary	TXNIP also known as thioredoxin-interacting protein or VDUP1 is an inhibitory protein that binds to and regulates the activity of thioredoxin. It has a molecular mass of around 46 kDa. TXNIP is expressed in various tissues including heart liver and skeletal muscle. It acts to control intracellular redox states by modulating thioredoxin's antioxidant functions. TXNIP expression can vary according to oxidative stress and cellular metabolic conditions.
Biological function summary	TXNIP regulates cellular processes such as glucose metabolism stress response and apoptosis. It does not form a complex but functions by negatively regulating the activity of thioredoxin. This protein can lead to increased reactive oxygen species (ROS) when it inhibits thioredoxin influencing cellular redox balance. TXNIP therefore plays a regulatory role in metabolic pathways and cellular stress responses by modulating thioredoxin activity and ROS levels.
Pathways	TXNIP is a significant component of the oxidative stress and glucose metabolism pathways. In the oxidative stress pathway TXNIP interacts with thioredoxin influencing ROS detoxification and redox-sensitive signaling. In glucose metabolism TXNIP can affect insulin signaling by interacting with glucose transporter-1 (GLUT1). These interactions highlight TXNIP's regulatory role in cellular metabolism and stress-related signaling making it a node of convergence with proteins like thioredoxin and GLUT1.

Associated diseases and disorders	TXNIP levels have been implicated in conditions such as type 2 diabetes and cardiovascular diseases. Elevated TXNIP expression has been observed in insulin resistance where it affects glucose uptake by modifying GLUT1 activity and links to thioredoxin in cardiovascular tissues resulting in oxidative stress damage. These connections position TXNIP as a potential therapeutic target for managing metabolic disorders and cardiovascular complications.

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

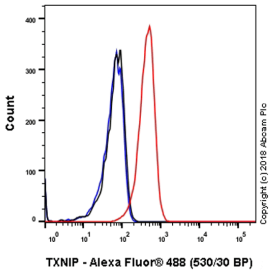
We do not recommend this combination. It is not covered by our product promise.

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.

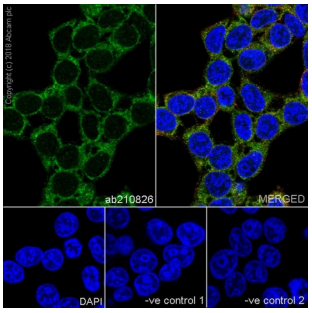
8 product images



Flow Cytometry (Intracellular) - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

TXNIP Flow Cytometry (Intracellular) staining using mouse Anti-TXNIP antibody

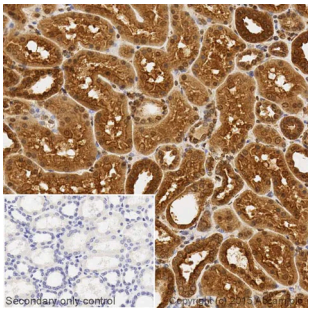
ab210826 staining TXNIP in HeLa (Human cervix adenocarcinoma epithelial cell line) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. The sample was incubated with primary antibody at 1/100 dilution (10µg/ml) (red). An Alexa Fluor® 488 Goat anti mouse IgG (ab150113) was used at 1/2000 dilution. Rabbit monoclonal IgG (ab172730) was used as isotype control (black). Cell without incubation with primary antibody and secondary antibody (blue).



Immunocytochemistry/ Immunofluorescence - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

TXNIP Immunocytochemistry/ Immunofluorescence staining using mouse Anti-TXNIP antibody

ab210826 staining TXNIP in 293T (human embryonic kidney epithelial cell line) cells by Immunocytochemistry/Immunofluorescence (ICC/IF). The cells were fixed with 100% Methanol. Samples were incubated with primary antibody at 10µg/ml (1:100 dilution). An Alexa Fluor® 488 Goat Anti-Mouse was used as the secondary antibody at 2µg/ml (ab150113). ab179504, Anti-beta IV Tubulin was used as a counterstain at 2µg/ml and ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) was used as secondary antibody counterstain at 4µg/ml.
For negative control 1, primary antibody was used at a 10µg/ml and ab150080 was used as secondary antibody at 4 µg/ml. For negative control 2, ab179504 was used as a primary antibody at 2µg/ml and ab150113 was used as a secondary antibody at 2 µg/ml. DAPI was used as a nuclear counterstain. Confocal image showing cytoplasmic staining in 293T cells.

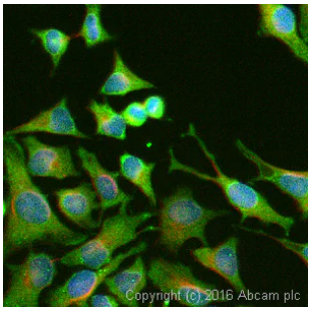


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

TXNIP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TXNIP antibody

IHC image of TxNIP staining in a section of formalin fixed, paraffin embedded human normal kidney tissue section*, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab210826, 2µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

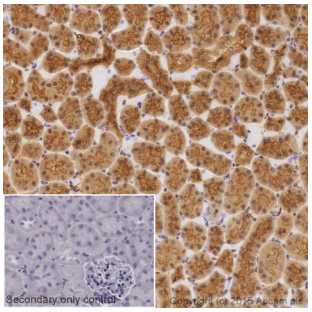
*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Immunocytochemistry/ Immunofluorescence - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

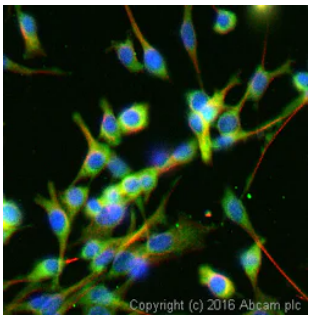
TXNIP Immunocytochemistry/ Immunofluorescence staining using mouse Anti-TXNIP antibody

ab210826 stained in Hela cells. The cells were fixed with 100% methanol (5min) at room temperature and incubated with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% triton for 1h at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab210826 at 5µg/ml overnight at +4°C. The secondary antibody was ab150177 used at 1 ug/ml for 1hour at room temperature (colored green). ab206369 (Rabbit monoclonal [EPR16774] to beta Tubulin Alexa Fluor® 594) was used as a counterstaining at a 1/200 dilution for 1hour at room temperature (pseudo-colored red). DAPI was used to stain the cell nuclei (colored blue) at a concentration of 1.43µM for 1hour at room temperature.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

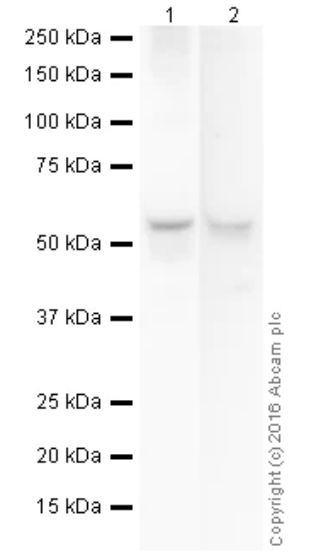
IHC image of ab210826 staining in a section of formalin fixed, paraffin embedded mouse normal kidney, using MOM detection kit, ab127055. The section was pre-treated using pressure cooker heat mediated antigen retrieval with sodium citrate buffer (pH6) for 30mins. The section was incubated with ab210826, 2µg/ml, for 15 mins at room temperature. DAB was used as the chromogen (ab103723), diluted 1/100 and incubated for 10min at room temperature. The section was counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

TXNIP Immunocytochemistry/ Immunofluorescence staining using mouse Anti-TXNIP antibody

ab210826 stained in NIH3T3 cells. The cells were fixed with 100% methanol (5min) at room temperature and incubated with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% triton for 1h at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab210826 at 5µg/ml overnight at +4°C. The secondary antibody was ab150177 used at 1 ug/ml for 1hour at room temperature (colored green). ab206369 (Rabbit monoclonal [EPR16774] to beta Tubulin Alexa Fluor® 594) was used as a counterstaining at a 1/200 dilution for 1hour at room temperature (pseudo-colored red). DAPI was used to stain the cell nuclei (colored blue) at a concentration of 1.43µM for 1hour at room temperature.



Western blot - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

TXNIP Western blot staining of HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate using mouse Anti-TXNIP antibody

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk (LANE 1) and 2% Bovine Serum Albumin (lane 2) before being incubated with ab210826 (lane 1) and ab188865 (lane 2) overnight at 4°C. Antibody binding was detected using an anti-mouse (lane 1) and anti-rabbit (lane 2) antibody conjugated to HRP, and visualised using ECL development solution ab133406.
All lanes:
Western blot - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826) at 5 µg

All lanes:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Secondary

Lane 1:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/5000 dilution

Lane 2:
Peroxidase AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/50000 dilution

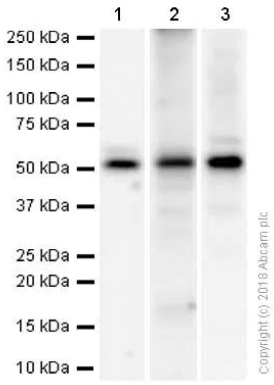
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 44 kDa

Observed band size: 55 kDa

Exposure time: 16min



Western blot - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826)

Blocking and diluting buffer: 5% NFDM/TBST.
Exposure time: Lane 1: 30 seconds
Lane 2: 70 seconds
Lane 3: 50 seconds

All lanes:
Western blot - Anti-TXNIP antibody [EPR14774] - Mouse IgG2b (Chimeric) (ab210826) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 2:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 15 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 15 µg

Secondary

All lanes:
Western blot - Rabbit Anti-Mouse IgG H&L (HRP) (ab6728) at 1/2000 dilution

Predicted band size: 44 kDa

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