abcam

ab13820

Anti-TXNDC5 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human TXNDC5 aa 400-450. The exact immunogen used to generate this antibody is proprietary information. Database link Q8NBS9
Purification technique	Affinity purification Immunogen
Specificity	This antibody is expected to be able to recognise both reported human isoforms, as represented by NP_110437; NP_071368.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

WB

Tested

Species	Human
Dilution info	0.1-1 µg/mL

Notes	A 1 hour primary incubation is recommended for this product.

IHC-P

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information TXNDC5

Function	Protein disulfide isomerase of the endoplasmic reticulum lumen involved in the formation of disulfide bonds in proteins. Can reduce insulin disulfide bonds.

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	TXNDC5 also known as Thioredoxin Domain-Containing Protein 5 is an endoplasmic reticulum-resident protein with a molecular mass of approximately 48 kDa. This protein functions as a disulfide isomerase assisting in the formation and rearrangement of disulfide bonds in newly synthesized proteins. Researchers note its high expression in tissues such as the liver lung and heart where protein folding demands are significant. Due to its involvement in protein folding TXNDC5 maintains cellular homeostasis and assists in proper protein assembly.
Biological function summary	TXNDC5 contributes to the oxidative folding of proteins within the endoplasmic reticulum. The protein does not act alone but as part of a larger complex involving other chaperones and foldases that together ensure protein quality control. TXNDC5 interfaces with the redox system impacting the oxidative environment necessary for correct protein folding. By contributing to this complex system TXNDC5 helps prevent the accumulation of misfolded proteins and maintains the integrity of cellular function.
Pathways	TXNDC5 plays a role in the protein folding pathway which is vital to maintaining cellular stability. In addition its involvement in the response to unfolded protein responses signifies its importance in stress-related pathways. TXNDC5 often interacts with other proteins such as PDI (Protein Disulfide Isomerase) and Calreticulin which are also important in protein folding and cellular stress responses. These pathways are essential for adapting to changes in protein synthesis demands and mitigating the effects of cellular stress.
Associated diseases and disorders	TXNDC5 has associations with conditions such as rheumatoid arthritis and certain cancers. Aberrant expression levels of TXNDC5 correlate with increased inflammatory responses in rheumatoid arthritis indicating its role in disease progression. In cancer overexpression of this protein has been observed suggesting a potential role in tumor growth and survival. Additionally TXNDC5 interacts with proteins like Hsp70 (Heat Shock Protein 70) which also plays a role in these disorders by assisting in protein folding under stress conditions thereby potentially influencing disease 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

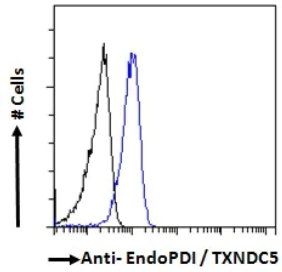
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

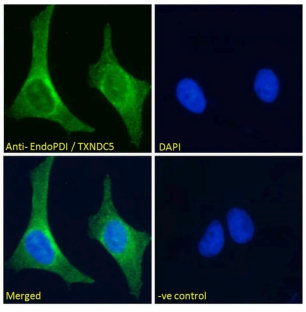
5 product images



Flow Cytometry (Intracellular) - Anti-TXNDC5 antibody (ab13820)

TXNDC5 Flow Cytometry (Intracellular) staining using goat Anti-TXNDC5 antibody

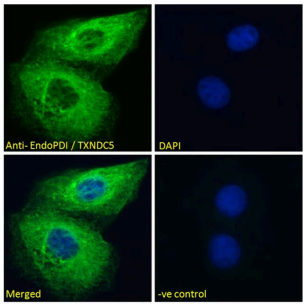
Flow cytometric analysis of paraformaldehyde fixed HeLa cells (blue line), permeabilized with 0.5% Triton. Primary incubation with ab13820 for 1hr (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (1 µg/ml). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-TXNDC5 antibody (ab13820)

TXNDC5 Immunocytochemistry/ Immunofluorescence staining using goat Anti-TXNDC5 antibody

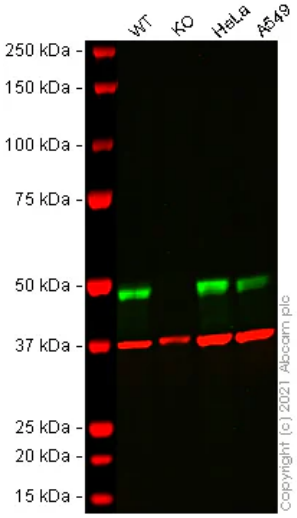
Immunofluorescence analysis of paraformaldehyde fixed U2OS cells, permeabilized with 0.15% Triton. Primary incubation with ab13820 1hr (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing endoplasmic reticulum staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Immunocytochemistry/ Immunofluorescence - Anti-TXNDC5 antibody (ab13820)

TXNDC5 Immunocytochemistry/ Immunofluorescence staining using goat Anti-TXNDC5 antibody

Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation with ab13820 1hr (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml), showing endoplasmic reticulum staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/ml) followed by Alexa Fluor 488 secondary antibody (2 µg/ml).



Western blot - Anti-TXNDC5 antibody (ab13820)

TXNDC5 Western blot staining using goat Anti-TXNDC5 antibody

False colour image of Western blot: Anti-TXNDC5 antibody staining at 0.1 µg/ml, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab13820 was shown to bind specifically to TXNDC5. A band was observed at 47 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in TXNDC5 knockout cell line ab266609 (knockout cell lysate ab263403). To generate this image, wild-type and TXNDC5 knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged.Secondary antibodies used were Donkey anti-Goat IgG H&L (IRDye® 800CW) preabsorbed (ab216775) and Donkey anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216778) at 1/20000 dilution.
All lanes:
Western blot - Anti-TXNDC5 antibody (ab13820) at 0.1 µg/mL

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human TXNDC5 knockout HEK-293T cell lysate (ab263403) at 20 µg

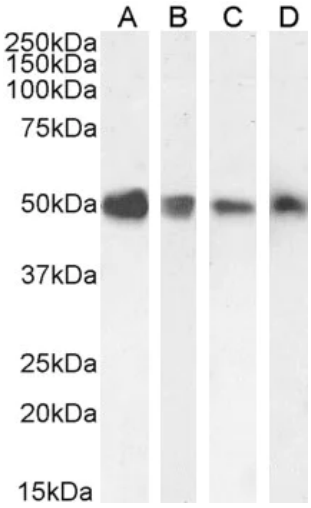
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
A549 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 47 kDa



Western blot - Anti-TXNDC5 antibody (ab13820)

All lanes:
Western blot - Anti-TXNDC5 antibody (ab13820) at 0.1 µg/mL

Lane 1:
HEK-293 cell lysate at 35 µg

Lane 2:
A549 cell lysate at 35 µg

Lane 3:
HeLa cell lysate at 35 µg

Lane 4:
HepG2 cell lysate at 35 µg

Predicted band size: 48 kDa

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