

TXNDC13 (N-20): sc-85986

BACKGROUND

Thioredoxins comprise a family of small proteins that, by catalyzing the oxidation of disulfide bonds, participate in redox reactions throughout the cell. Proteins that contain thioredoxin domains do not necessarily convey the oxidative properties of thioredoxins, but generally function as disulfide isomerases that enzymatically rearrange disulfide bonds found in various proteins. TXNDC13 (thioredoxin domain-containing protein 13), also known as TMX4 (thioredoxin-related transmembrane protein 4) or PDIA14 (protein disulfide isomerase family A, member 14), is a 349 amino acid single-pass type I membrane protein that contains one thioredoxin domain. Strongly expressed in melanoma cells, TXNDC13 localizes to the endoplasmic reticulum. TXNDC13 is suggested to be involved in protein folding due to its interaction with Calnexin and ERp57.

REFERENCES

- Holmgren, A. 1985. Thioredoxin. *Annu. Rev. Biochem.* 54: 237-271.
- Holmgren, A. 1989. Thioredoxin and glutaredoxin systems. *J. Biol. Chem.* 264: 13963-13966.
- Eklund, H., Gleason, F.K. and Holmgren, A. 1991. Structural and functional relations among thioredoxins of different species. *Proteins* 11: 13-28.
- Freedman, R.B., Hirst, T.R. and Tuite, M.F. 1994. Protein disulphide isomerase: building bridges in protein folding. *Trends Biochem. Sci.* 19: 331-336.
- Roth, D., Lynes, E., Riemer, J., Hansen, H.G., Althaus, N., Simmen, T. and Ellgaard, L. 2010. A di-arginine motif contributes to the ER localization of the type I transmembrane ER oxidoreductase TMX4. *Biochem. J.* 425: 195-205.
- Sugiura, Y., Araki, K., Iemura, S., Natsume, T., Hoseki, J. and Nagata, K. 2010. Novel thioredoxin-related transmembrane protein TMX4 has reductase activity. *J. Biol. Chem.* 285: 7135-7142.
- Schulman, S., Wang, B., Li, W. and Rapoport, T.A. 2010. Vitamin K epoxide reductase prefers ER membrane-anchored thioredoxin-like redox partners. *Proc. Natl. Acad. Sci. USA* 107: 15027-15032.

CHROMOSOMAL LOCATION

Genetic locus: TMX4 (human) mapping to 20p12.3; Tmx4 (mouse) mapping to 2 F2.

SOURCE

TXNDC13 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TXNDC13 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85986 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TXNDC13 (N-20) is recommended for detection of TXNDC13 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with TXNDC9.

TXNDC13 (N-20) is also recommended for detection of TXNDC13 in additional species, including bovine.

Suitable for use as control antibody for TXNDC13 siRNA (h): sc-76780, TXNDC13 siRNA (m): sc-154819, TXNDC13 shRNA Plasmid (h): sc-76780-SH, TXNDC13 shRNA Plasmid (m): sc-154819-SH, TXNDC13 shRNA (h) Lentiviral Particles: sc-76780-V and TXNDC13 shRNA (m) Lentiviral Particles: sc-154819-V.

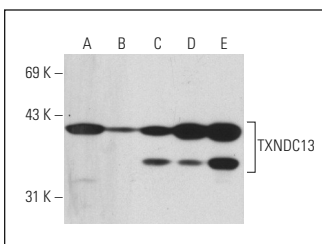
Molecular Weight of TXNDC13: 39 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, T-47D cell lysate: sc-2293 or Hep G2 cell lysate: sc-2227.

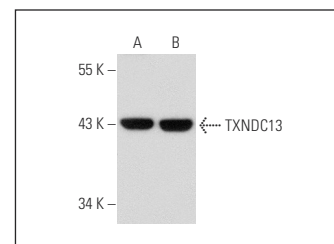
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TXNDC13 (N-20): sc-85986. Western blot analysis of TXNDC13 expression in Hep G2 (A), c4 (B), T-47D (C), IMR-32 (D) and SK-N-SH (E) whole cell lysates.



TXNDC13 (N-20): sc-85986. Western blot analysis of TXNDC13 expression in mouse brain tissue extract (A) and LADMAC whole cell lysate (B).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.