

# TMX3 (N-15): sc-85184

## BACKGROUND

Thioredoxins comprise a family of small proteins that, by catalyzing the oxidation of disulfide bonds, participate in redox reactions throughout the cell. TMX3 (thioredoxin-related transmembrane protein 3), also known as thioredoxin domain-containing protein 10, protein disulfide-isomerase TMX3, PDIA13 or TXNDC10, is a 454 amino acid single-pass endoplasmic reticulum membrane protein that belongs to the protein disulfide isomerase family. Existing as two alternatively spliced isoforms and containing one thioredoxin domain, TMX3 likely functions as a dithiol oxidase and disulfide isomerase, which plays a role in protein folding by catalyzing disulfide bond rearrangement. Widely expressed, TMX3 is found at highest levels in eye, placenta, muscle, brain, testis, lung, uterus, kidney, stomach, prostate, bone, liver and brain, and is encoded by a gene located on human chromosome 18.

## REFERENCES

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- Powis, G. and Montfort, W.R. 2001. Properties and biological activities of thioredoxins. *Annu. Rev. Biophys. Biomol. Struct.* 30: 421-455.
- Nakamura, H. 2005. Thioredoxin and its related molecules: update 2005. *Antioxid. Redox Signal.* 7: 823-828.
- Stefanková, P., Kollárová, M. and Barák, I. 2005. Thioredoxin-structural and functional complexity. *Gen. Physiol. Biophys.* 24: 3-11.
- Haugstetter, J., Blicher, T. and Ellgaard, L. 2005. Identification and characterization of a novel thioredoxin-related transmembrane protein of the endoplasmic reticulum. *J. Biol. Chem.* 280: 8371-8380.
- Haugstetter, J., Maurer, M.A., Blicher, T., Pagac, M., Wider, G. and Ellgaard, L. 2007. Structure-function analysis of the endoplasmic reticulum oxidoreductase TMX3 reveals interdomain stabilization of the N-terminal redox-active domain. *J. Biol. Chem.* 282: 33859-33867.

## CHROMOSOMAL LOCATION

Genetic locus: TMX3 (human) mapping to 18q22.1; Tmx3 (mouse) mapping to 18 E4.

## SOURCE

TMX3 (N-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of TMX3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85184 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

TMX3 (N-15) is recommended for detection of TMX3 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).

TMX3 (N-15) is also recommended for detection of TMX3 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for TMX3 siRNA (h): sc-76695, TMX3 shRNA Plasmid (h): sc-76695-SH and TMX3 shRNA (h) Lentiviral Particles: sc-76695-V.

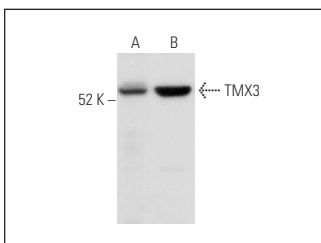
Molecular Weight of TMX3: 51 kDa.

Positive Controls: A2058 whole cell lysate: sc-364178.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TMX3 (N-15): sc-85184. Western blot analysis of TMX3 expression in human tonsil tissue extract (A) and A2058 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.