

TXNDC15 (Q-12): sc-137889

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. TXNDC15 (thioredoxin domain containing 15), also known as UNQ335, is a 360 amino acid single-pass type I membrane protein that contains a thioredoxin domain. Existing as two alternatively spliced isoforms, TXNDC15 is encoded by a gene located on human chromosome 5q31.1. Human chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

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 and F.K., Holmgren, A. 1991. Structural and functional relations among thioredoxins of different species. *Proteins* 11: 13-28.
- Matsuo, Y., Akiyama, N., Nakamura, H., Yodoi, J., Noda, M. and Kizaka-Kondoh, S. 2001. Identification of a novel thioredoxin-related transmembrane protein. *J. Biol. Chem.* 276: 10032-10038.
- Anelli, T., Alessio, M., Mezghrani, A., Simmen, T., Talamo, F., Bachi, A. and Sitia, R. 2002. ERp44, a novel endoplasmic reticulum folding assistant of the thioredoxin family. *EMBO J.* 21: 835-844.
- Anelli, T., Alessio, M., Bachi, A., Bergamelli, L., Bertoli, G., Camerini, S., Mezghrani, A., Ruffato, E., Simmen, T. and Sitia, R. 2003. Thiol-mediated protein retention in the endoplasmic reticulum: the role of ERp44. *EMBO J.* 22: 5015-5022.
- Matsuo, Y., Nishinaka, Y., Suzuki, S., Kojima, M., Kizaka-Kondoh, S., Kondo, N., Son, A., Sakakura-Nishiyama, J., Yamaguchi, Y., Masutani, H., Ishii, Y. and Yodoi, J. 2004. TMX, a human transmembrane oxidoreductase of the thioredoxin family: the possible role in disulfide-linked protein folding in the endoplasmic reticulum. *Arch. Biochem. Biophys.* 423: 81-87.
- Matsuo, Y., Masutani, H., Son, A., Kizaka-Kondoh, S. and Yodoi, J. 2009. Physical and functional interaction of transmembrane thioredoxin-related protein with major histocompatibility complex class I heavy chain: redox-based protein quality control and its potential relevance to immune responses. *Mol. Biol. Cell* 20: 4552-4562.

CHROMOSOMAL LOCATION

Genetic locus: TXNDC15 (human) mapping to 5q31.1; Txndc15 (mouse) mapping to 13 B1.

RESEARCH USE

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

SOURCE

TXNDC15 (Q-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of TXNDC15 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-137889 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TXNDC15 (Q-12) is recommended for detection of TXNDC15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other TXNDC family members.

TXNDC15 (Q-12) is also recommended for detection of TXNDC15 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TXNDC15 siRNA (h): sc-91646, TXNDC15 siRNA (m): sc-154821, TXNDC15 shRNA Plasmid (h): sc-91646-SH, TXNDC15 shRNA Plasmid (m): sc-154821-SH, TXNDC15 shRNA (h) Lentiviral Particles: sc-91646-V and TXNDC15 shRNA (m) Lentiviral Particles: sc-154821-V.

Molecular Weight of TXNDC15 isoforms: 40/38 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.