

Sptrx-1 (T-20): sc-85166

BACKGROUND

Sptrx-1 (spermatid-specific thioredoxin-1), also known as TXNDC2 (thioredoxin domain-containing protein 2) or SPTRX, is a 553 amino acid cytoplasmic protein that contains one thioredoxin domain, plays a role in sperm development and may participate in regulation of fibrous sheath (FS) assembly by supporting the formation of disulfide bonds during sperm tail morphogenesis. Existing as two alternatively spliced isoforms, Sptrx-1 is only expressed in testis during spermiogenesis, prominently in round and elongating spermatids. The gene that encodes Sptrx-1 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

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3. Yu, Y., et al. 2002. Developmental expression of spermatid-specific thioredoxin-1 protein: transient association to the longitudinal columns of the fibrous sheath during sperm tail formation. *Biol. Reprod.* 67: 1546-1554.
4. Jiménez, A., et al. 2002. Human spermatid-specific thioredoxin-1 (Sptrx-1) is a two-domain protein with oxidizing activity. *FEBS Lett.* 530: 79-84.
5. Jiménez, A., et al. 2002. Cloning, expression and characterization of mouse spermatid specific thioredoxin-1 gene and protein. *Mol. Hum. Reprod.* 8: 710-718.
6. Petek, E., et al. 2003. Characterisation of a 19-year-old "long-term survivor" with Edwards syndrome. *Genet. Couns.* 14: 239-244.
7. Aurizi, C., et al. 2007. Heterogeneity of mutations in the ferrochelatase gene in Italian patients with erythropoietic protoporphyria. *Mol. Genet. Metab.* 90: 402-407.
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CHROMOSOMAL LOCATION

Genetic locus: TXNDC2 (human) mapping to 18p11.22.

SOURCE

Sptrx-1 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sptrx-1 of human origin.

STORAGE

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

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-85166 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sptrx-1 (T-20) is recommended for detection of Sptrx-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for Sptrx-1 siRNA (h): sc-76575, Sptrx-1 shRNA Plasmid (h): sc-76575-SH and Sptrx-1 shRNA (h) Lentiviral Particles: sc-76575-V.

Molecular Weight of Sptrx-1 isoforms: 60/53 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.