SANTA CRUZ BIOTECHNOLOGY, INC.

Sptrx-3 (R-15): sc-165584

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The Power to Question

BACKGROUND

Sptrx-3 (spermatid-specific thioredoxin-3), also known as TRX6 (thioredoxin-6) or TXNDC8 (thioredoxin domain-containing protein 8), is a 127 amino acid protein that belongs to the thioredoxin family and contains one thioredoxin domain. Localizing to the cytoplasm and Golgi apparatus in testis, Sptrx-3 may be required for post-translational modifications of proteins required for acrosomal biogenesis and may also reduce disulfide bonds within the sperm. Sptrx-3 is only expressed during spermiogenesis, prominently in the Golgi apparatus of pachytene spermatocytes and round and elongated spermatids, with a transient localization in the developing acrosome of round spermatids. The Sptrx-3 gene contains 34,327 bases, encodes 2 alternatively spliced isoforms and maps to human chromosome 9q31.3. Human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome, is associated with hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and Familial dysautonomia.

REFERENCES

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2. Jiménez, A., et al. 2004. Spermatocyte/spermatid-specific thioredoxin-3, a novel Golgi apparatus-associated thioredoxin, is a specific marker of aberrant spermatogenesis. J. Biol. Chem. 279: 34971-34982.
3. Kondo, N., et al. 2006. Redox regulation of human thioredoxin network. Antioxid. Redox Signal. 8: 1881-1890.
4. Cottin, V., et al. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (rendu-osler disease). Respiration 74: 361-378.
5. Gold-von Simson, G., et al. 2009. Kinetin in familial dysautonomia carriers: implications for a new therapeutic strategy targeting mRNA splicing. Pediatr. Res. 65: 341-346.
6. Buckman, C., et al. 2009. High throughput, parallel imaging and biomarker quantification of human spermatozoa by ImageStream flow cytometry. Syst. Biol. Reprod. Med. 55: 244-251.
7. Axelrod, F.B., et al. 2010. Neuroimaging supports central pathology in familial dysautonomia. J. Neurol. 257: 198-206.

CHROMOSOMAL LOCATION

Genetic locus: Txndc8 (rat) mapping to 5q24.

SOURCE

Sptrx-3 (R-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Sptrx-3 of rat origin.

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.

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-165584 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sptrx-3 (R-15) is recommended for detection of Sptrx-3 of rat 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); non cross-reactive with Sptrx-1 or Sptrx-2.

Molecular Weight of Sptrx-3 isoforms: 15/13 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.