SANTA CRUZ BIOTECHNOLOGY, INC.

Sptrx-2 (KK-M5): sc-135567

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sptrx-2 (spermatid-specific thioredoxin-2), also known as NME8, CILD6, SPTRX2 or TXNDC3 (thioredoxin domain-containing protein 3), is a 588 amino acid cytoplasmic and testis-specific protein belonging to the NDK family. Expressed only in primary spermatocytes and round spermatids, Sptrx-2 may be required during the final stages of sperm tail maturation in the testis and/or epididymis, where extensive disulfide bonding of fibrous sheath (FS) proteins occur. Sptrx-2 contains contains a thioredoxin domain and three inactive NDK domains that each lack the active His residue, suggesting that they are not capable of NDP kinase activity. Defects in the gene encoding Sptrx-2 are the cause of primary ciliary dyskinesia type 6, an autosomal recessive disorder characterized by axonemal abnormalities of motile cilia. Primary ciliary dyskinesia associated with situs inversus is referred to as Kartagener syndrome.

REFERENCES

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2. Mahr, S., et al. 2006. *Cis*- and *trans*-acting gene regulation is associated with osteoarthritis. Am. J. Hum. Genet. 78: 793-803.
3. Loughlin, J., et al. 2007. Genetic association analysis of RHOB and TXNDC3 in osteoarthritis. Am. J. Hum. Genet. 80: 383-386.
4. Duriez, B., et al. 2007. A common variant in combination with a nonsense mutation in a member of the thioredoxin family causes primary ciliary dyskinesia. Proc. Natl. Acad. Sci. USA 104: 3336-3341.
5. Shi, D., et al. 2008. Association of single-nucleotide polymorphisms in RHOB and TXNDC3 with knee osteoarthritis susceptibility: two case-control studies in East Asian populations and a meta-analysis. Arthritis Res. Ther. 10: R54.
6. Geremek, M., et al. 2008. Sequence analysis of 21 genes located in the Kartagener syndrome linkage region on chromosome 15q. Eur. J. Hum. Genet. 16: 688-695.
7. Failly, M., et al. 2008. DNAI1 mutations explain only 2% of primary ciliary dykinesia. Respiration 76: 198-204.
8. Failly, M., et al. 2009. Mutations in DNAH5 account for only 15% of a non-preselected cohort of patients with primary ciliary dyskinesia. J. Med. Genet. 46: 281-286.
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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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: TXNDC3 (human) mapping to 7p14.1.

SOURCE

Sptrx-2 (KK-M5) is a mouse monoclonal antibody raised against recombinant Sptrx-2 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Sptrx-2 (KK-M5) is recommended for detection of Sptrx-2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Sptrx-2 siRNA (h): sc-89740, Sptrx-2 shRNA Plasmid (h): sc-89740-SH and Sptrx-2 shRNA (h) Lentiviral Particles: sc-89740-V.

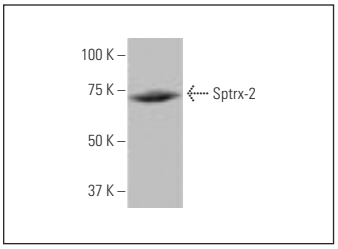
Molecular Weight of Sptrx-2: 67 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Sptrx-2 (KK-M5): sc-135567. Western blot analysis of Sptrx-2 expression in Jurkat whole cell lysate.

RESEARCH USE

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