



## Sptrx-2 (h2): 293T Lysate: sc-158977

### 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 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

1. Sadek, C.M., et al. 2001. Sptrx-2, a fusion protein composed of one thioredoxin and three tandemly repeated NDP-kinase domains is expressed in human testis germ cells. *Genes Cells* 6: 1077-1090.
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 dyskinesia. *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.
9. Escudier, E., et al. 2009. Ciliary defects and genetics of primary ciliary dyskinesia. *Paediatr. Respir. Rev.* 10: 51-54.

### STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

### PROTOCOLS

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

### CHROMOSOMAL LOCATION

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

### PRODUCT

Sptrx-2 (h2): 293T Lysate represents a lysate of human Sptrx-2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

### APPLICATIONS

Sptrx-2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Sptrx-2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

### RESEARCH USE

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