SANTA CRUZ BIOTECHNOLOGY, INC.

Tesmin (W-23): sc-134073



The Power to Question

BACKGROUND

Metallothionein proteins are highly conserved low-molecular-weight cysteinerich proteins that are induced by and bind to heavy metal ions and have no enzymatic activity. Metallothionein proteins may play a central role in the regulation of cell growth, differentiation and are involved in spermatogenesis. Tesmin (testis-specific metallothionein-like protein), also designated MTLT, CXCDC2 or MTL5, is a 508 amino acid nuclear and cytoplasmic protein that is specifically expressed in spermatocytes. A member of the LIN-54 family, Tesmin may be involved in multiple stages of spermatogenesis and spermiogenesis, possibly during sperm maturation and/or morphogenesis. Tesmin contains two CXC domains and exists as three alternatively spliced isoforms. Tesmin is encoded by a gene located on human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

REFERENCES

- 1. De, S.K., et al. 1991. High levels of metallothionein messenger RNAs in male germ cells of the adult mouse. Mol. Endocrinol. 5: 628-636.
- Salehi-Ashtiani, K., et al. 1993. Testis-specific expression of a metallothionein I-driven transgene correlates with undermethylation of the locus in testicular DNA. Proc. Natl. Acad. Sci. USA 90: 8886-8890.
- Sugihara, T., et al. 1999. A novel testis-specific metallothionein-like protein, Tesmin, is an early marker of male germ cell differentiation. Genomics 57: 130-136.
- Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604374. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Matsuura, T., et al. 2002. Germ cell-specific nucleocytoplasmic shuttling protein, Tesmin, responsive to heavy metal stress in mouse testes. J. Inorg. Biochem. 88: 183-191.
- Sutou, S., et al. 2003. Native Tesmin is a 60-kilodalton protein that undergoes dynamic changes in its localization during spermatogenesis in mice. Biol. Reprod. 68: 1861-1869.
- 7. Olesen, C., et al. 2004. Tesmin transcription is regulated differently during male and female meiosis. Mol. Reprod. Dev. 67: 116-126.
- Jiang, J., et al. 2007. Tombola, a Tesmin/TS01-family protein, regulates transcriptional activation in the *Drosophila* male germline and physically interacts with always early. Development 134: 1549-1559.

CHROMOSOMAL LOCATION

Genetic locus: MTL5 (human) mapping to 11q13.2.

SOURCE

Tesmin (W-23) is an affinity purified rabbit polyclonal antibody raised against synthetic Tesmin peptide 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 50 μg lgG in 500 μl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

Tesmin (W-23) is recommended for detection of Tesmin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Tesmin siRNA (h): sc-76646, Tesmin shRNA Plasmid (h): sc-76646-SH and Tesmin shRNA (h) Lentiviral Particles: sc-76646-V.

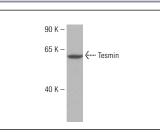
Molecular Weight of Tesmin: 60 kDa.

Positive Controls: human fetal brain whole cell lysate.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Tesmin (W-23): sc-134073. Western blot analysis of Tesmin expression in human fetal brain tissue extract

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.