# Tesmin (G-15): sc-82377



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.
- Olesen, C., et al. 2004. Tesmin transcription is regulated differently during male and female meiosis. Mol. Reprod. Dev. 67: 116-126.
- 8. 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.
- 9. Andersen, S.U., et al. 2007. The conserved cysteine-rich domain of a Tesmin/TS01-like protein binds zinc *in vitro* and TS01 is required for both male and female fertility in *Arabidopsis thaliana*. J. Exp. Bot. 58: 3657-3670.

# CHROMOSOMAL LOCATION

Genetic locus: MTL5 (human) mapping to 11q13.3.

#### **SOURCE**

Tesmin (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Tesmin (MTL5) of human origin.

#### **PRODUCT**

Each vial contains 200  $\mu g$  IgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82377 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **APPLICATIONS**

Tesmin (G-15) is recommended for detection of Tesmin 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).

Tesmin (G-15) is also recommended for detection of Tesmin (MTL5) in additional species, including porcine.

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.

#### **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) with UltraCruz™ Mounting Medium: sc-24941.

## **STORAGE**

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

#### **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.

**Santa Cruz Biotechnology, Inc.** 1.800.457.3801 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**