

## PRSS50 (S-18): sc-49560

### BACKGROUND

Testis-specific protease 50 (TSP50) is a 385 amino acid protein that is only expressed in the nucleus and cytoplasm of spermatocytes, but not in mature sperm of testis or in malignant mammary epithelial cells. TSP50 is similar in enzymatic structure to many serine proteases, however, in the most critical catalytic triad, the serine has been replaced by a threonine. This unique structure of TSP50 indicates that it may have a specialized substrate. TSP50 is usually methylated, but expression of the abnormally hypomethylated form of TSP50 may lead to breast and ovarian cancer. This suggests that while the normal function of TSP50 is to play a role in spermatogenesis and human regeneration, the upregulation or hypomethylation of TSP50 may be oncogenic.

### REFERENCES

1. Yuan, L., Shan, J., De Risi, D., Broome, J., Lovecchio, J., Gal, D., Vinciguerra, V. and Xu, H.P. 1999. Isolation of a novel gene, TSP50, by a hypomethylated DNA fragment in human breast cancer. *Cancer Res.* 59: 3215-3221.
2. Shan, J., Yuan, L., Xiao, Q., Chiorazzi, N., Budman, D., Teichberg, S. and Xu, H.P. 2002. TSP50, a possible protease in human testes, is activated in breast cancer epithelial cells. *Cancer Res.* 62: 290-294.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607950. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Takano, N., Matsui, H. and Takahashi, T. 2004. TESSP-1: a novel serine protease gene expressed in the spermatogonia and spermatocytes of adult mouse testes. *Mol. Reprod. Dev.* 70: 1-10.
5. Xu, H.P., Yuan, L., Shan, J. and Feng, H. 2004. Localization and expression of TSP50 protein in human and rodent testes. *Urology* 64: 826-832.
6. Looijenga, L.H., Hersmus, R., Gillis, A.J., Pfundt, R., Stoop, H.J., van Gorp, R.J., Veltman, J., Beverloo, H.B., van Drunen, E., van Kessel, A.G., Pera, R.R., Schneider, D.T., Summersgill, B., Shipley, J., McIntyre, A., van der Spek, P., Schoenmakers, E. and Oosterhuis, J.W. 2006. Genomic and expression profiling of human spermatocytic seminomas: primary spermatocyte as tumorigenic precursor and DMRT1 as candidate chromosome 9 gene. *Cancer Res.* 66: 290-302.
7. Wei, J., Liu, Y., Yang, S., Xu, J., Kong, H., Han, B., Bao, Y., Wu, Y., Yin, W., Li, W., Yan, G., Luo, G., Xu, H.P., Li, Y. and Yang, B. 2006. Screening of single-chain variable fragments against TSP50 from a phage display antibody library and their expression as soluble proteins. *J. Biomol. Screen.* 11: 546-552.

### CHROMOSOMAL LOCATION

Genetic locus: Prss50 (mouse) mapping to 9 F3.

### SOURCE

PRSS50 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PRSS50 of mouse origin.

### 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-49560 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PRSS50 (S-18) is recommended for detection of PRSS50 of mouse 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).

Suitable for use as control antibody for PRSS50 siRNA (m): sc-61731, PRSS50 shRNA Plasmid (m): sc-61731-SH and PRSS50 shRNA (m) Lentiviral Particles: sc-61731-V.

Molecular Weight of PRSS50: 49 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.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
Satisfation  
Guaranteed

Try **PRSS50 (DD-4): sc-80412**, our highly recommended monoclonal alternative to PRSS50 (S-18).