

# TSSK 6 (G-13): sc-241102

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. TSSK 6 (testis-specific serine kinase 6), also known as SSTK, TSSK4, FKSG82 or CT72, is a 273 amino acid protein that contains one protein kinase domain and belongs to the Ser/Thr protein kinase family. Highly expressed in testis with lower expression in ovary, colon, thymus, small intestine and spleen, TSSK 6 catalyzes the ATP-dependent phosphorylation of proteins involved in sperm production and chromatin remodeling. TSSK 6 uses magnesium as a cofactor and is thought to be required for proper sperm development and function, as well as DNA condensation events. Defects in the gene encoding TSSK 6 are associated with male infertility characterized by low sperm count and decreased sperm motility.

## REFERENCES

- Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. *Science* 241: 42-52.
- Hanks, S.K., et al. 1995. Protein kinases 6. The eukaryotic protein kinase superfamily: kinase (catalytic) domain structure and classification. *FASEB J.* 9: 576-596.
- Green, G.R. 2001. Phosphorylation of histone variant regions in chromatin: unlocking the linker? *Biochem. Cell Biol.* 79: 275-287.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610712. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hao, Z., et al. 2004. Expression analysis of the human testis-specific serine/threonine kinase (TSSK) homologues. A TSSK member is present in the equatorial segment of human sperm. *Mol. Hum. Reprod.* 10: 433-444.
- Chen, X., et al. 2005. TSSK5, a novel member of the testis-specific serine/threonine kinase family, phosphorylates CREB at Ser-133, and stimulates the CRE/CREB responsive pathway. *Biochem. Biophys. Res. Commun.* 333: 742-749.
- Spiridonov, N.A., et al. 2005. Identification and characterization of SSTK, a serine/threonine protein kinase essential for male fertility. *Mol. Cell. Biol.* 25: 4250-4261.
- Xu, B., et al. 2007. Validation of a testis specific serine/threonine kinase [TSSK] family and the substrate of TSSK1 & 2, TSKS, as contraceptive targets. *Soc. Reprod. Fertil. Suppl.* 63: 87-101.

## CHROMOSOMAL LOCATION

Genetic locus: TSSK6 (human) mapping to 19p13.11; Tssk6 (mouse) mapping to 8 B3.3.

## RESEARCH USE

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

## SOURCE

TSSK 6 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TSSK 6 of human 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-241102 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TSSK 6 (G-13) is recommended for detection of TSSK 6 of mouse, rat and 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); non cross-reactive with other TSSK family members.

TSSK 6 (G-13) is also recommended for detection of TSSK 6 in additional species, including equine.

Suitable for use as control antibody for TSSK 6 siRNA (h): sc-97616, TSSK 6 siRNA (m): sc-154745, TSSK 6 shRNA Plasmid (h): sc-97616-SH, TSSK 6 shRNA Plasmid (m): sc-154745-SH, TSSK 6 shRNA (h) Lentiviral Particles: sc-97616-V and TSSK 6 shRNA (m) Lentiviral Particles: sc-154745-V.

Molecular Weight of TSSK 6: 33 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

## 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.

## PROTOCOLS

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