# SANTA CRUZ BIOTECHNOLOGY, INC.

# TSSK 2 (P-12): sc-86253



#### BACKGROUND

TSSK 2 (testis-specific serine kinase 2), also known as DGS-G (DiGeorge syndrome protein G), SPOGA2 or STK22B (serine/threonine-protein kinase 22B), is a testis-specific serine/threonine kinase that belongs to the CAMK serine/threonine-protein kinase family. Localizing to the cytoplasm, TSSK 2 contains one protein kinase domain and is believed to play a role in the late stages of spermatogenesis. TSSK 2 shares 83% amino acid identity with the related protein kinase TSSK 1. Specifically, TSSK 2 uses magnesium as a cofactor and catalyzes the transfer of a phosphate from ATP to a target protein, such as SPAG16. Loss of TSSK 2 due to chromosomal deletion has been implicated in velocardiofacial/DiGeorge syndrome (VCFS/DGS), a disorder of development that is characterized by palate anomalies, facial anomalies, immunodeficiency, conotruncal cardiac malformations and hypocalcemia.

### REFERENCES

- 1. Kueng, P., Nikolova, Z., Djonov, V., Hemphill, A., Rohrbach, V., Boehlen, D., Zuercher, G., Andres, A.C. and Ziemiecki, A. 1997. A novel family of serine/ threonine kinases participating in spermiogenesis. J. Cell Biol. 139: 1851-1859.
- 2. Zuercher, G., Rohrbach, V., Andres, A.C. and Ziemiecki, A. 2000. A novel member of the testis specific serine kinase family, TSSK 3, expressed in the Leydig cells of sexually mature mice. Mech. Dev. 93: 175-177.
- 3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610710: World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 4. Hao, Z., Jha, K.N., Kim, Y.H., Vemuganti, S., Westbrook, V.A., Chertihin, O., Markgraf, K., Flickinger, C.J., Coppola, M., Herr, J.C. and Visconti, P.E. 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.
- 5. Xu, B., Hao, Z., Jha, K.N., Digilio, L., Urekar, C., Kim, Y.H., Pulido, S., Flickinger, C.J. and Herr, J.C. 2007. Validation of a testis specific serine/threonine kinase [TSSK] family and the substrate of TSSK1 & amp; 2, TSKS, as contraceptive targets. Soc. Reprod. Fertil. Suppl. 63: 87-8101.
- 6. Zeng, M., Deng, W., Wang, X., Qiu, W., Liu, Y., Sun, H., Tao, D., Zhang, S. and Ma, Y. 2008. DAZL binds to the transcripts of several TSSK genes in germ cells. BMB Rep. 41: 300-304.
- 7. Zhang, Z., Shen, X., Jones, B.H., Xu, B., Herr, J.C. and Strauss lii, J.F. 2008. Phosphorylation of mouse sperm axoneme central apparatus protein SPAG16L by a testis-specific kinase, TSSK 2. Biol. Reprod. 79: 75-83

#### CHROMOSOMAL LOCATION

Genetic locus: TSSK2 (human) mapping to 22q11.21; Tssk2 (mouse) mapping to 16 A3.

#### **STORAGE**

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

#### SOURCE

TSSK 2 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TSSK 2 of human origin.

#### PRODUCT

Each vial contains 200 µg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86253 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **APPLICATIONS**

TSSK 2 (P-12) is recommended for detection of TSSK 2 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).

Suitable for use as control antibody for TSSK 2 siRNA (h): sc-76768, TSSK 2 siRNA (m): sc-154741, TSSK 2 shRNA Plasmid (h): sc-76768-SH, TSSK 2 shRNA Plasmid (m): sc-154741-SH, TSSK 2 shRNA (h) Lentiviral Particles: sc-76768-V and TSSK 2 shRNA (m) Lentiviral Particles: sc-154741-V.

Molecular Weight of TSSK 2: 41 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<sup>™</sup> 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.

## **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.