SANTA CRUZ BIOTECHNOLOGY, INC.

STK31 (N-18): sc-130272

BACKGROUND

Protein kinases catalyze the post-translational transfer of a phosphate group from ATP to a serine, threonine or tyrosine residue, thereby playing a major role in many intracellular and intercellular signaling cascades. STK31 (serine/threonine-protein kinase 31) is a 1019 amino acid protein belonging to the protein kinase superfamily. STK31 contains one C-terminal protein kinase domain and one N-terminal Tudor domain, which functions as a protein-protein interaction motif during RNA metabolism or transport. As a testis-specific kinase, STK31 is found in both post-meitoic spermatocytes as well as in mature spermatozoa and is thought to be involved in spermatogensis and/or sperm function. Also, as a result of frequent expression in colorectal, gastric and esophageal cancers, STK31 has been identified as a potential cancer/testis (CT) antigen. There are two named isoforms of STK31 which are produced as a result of an alternative splicing event.

REFERENCES

1. Visconti, P.E., et al. 1998. Regulation of protein phosphorylation during sperm capacitation. Biol. Reprod. 59: 1-6.
2. Visconti, P.E., et al. 2001. Cloning and chromosomal localization of a gene encoding a novel serine/threonine kinase belonging to the subfamily of testis-specific kinases. Genomics 77: 163-170.
3. Wang, P.J., et al. 2001. An abundance of X-linked genes expressed in spermatogonia. Nat. Genet. 27: 422-426.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605790. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. 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.
6. Olesen, C., et al. 2007. Global gene expression analysis in fetal mouse ovaries with and without meiosis and comparison of selected genes with meiosis in the testis. Cell Tissue Res. 328: 207-221.
7. Yokoe, T., et al. 2008. Efficient identification of a novel cancer/testis antigen for immunotherapy using three-step microarray analysis. Cancer Res. 68: 1074-1082.
8. Sabeur, K., et al. 2008. Characterization of a novel, testis-specific equine serine/threonine kinase. Mol. Reprod. Dev. 75: 867-873.

CHROMOSOMAL LOCATION

Genetic locus: STK31 (human) mapping to 7p15.3.

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 or our catalog for detailed protocols and support products.

SOURCE

STK31 (N-18) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of STK31 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

STK31 (N-18) is recommended for detection of STK31 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

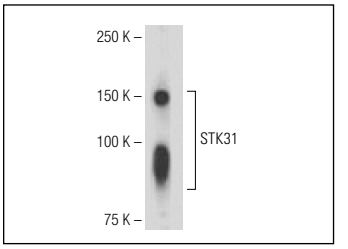
Suitable for use as control antibody for STK31 siRNA (h): sc-89897, STK31 shRNA Plasmid (h): sc-89897-SH and STK31 shRNA (h) Lentiviral Particles: sc-89897-V.

Molecular Weight of STK31: 70 kDa.

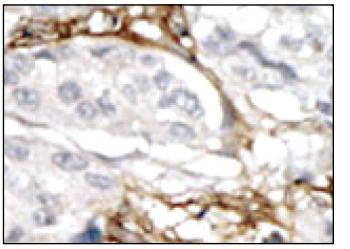
RECOMMENDED SECONDARY REAGENTS

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



STK31 (N-18): sc-130272. Western blot analysis of STK31 expression in rat testis tissue extract.



STK31 (N-18): sc-130272. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

RESEARCH USE

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