

STK33 (G-14): sc-169450

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. STK33 (serine/threonine kinase 33) is a 514 amino acid protein that belongs to the CaMK (calcium/calmodulin dependent kinase) subfamily of structurally related serine/threonine kinases. Widely expressed at low levels with predominant expression in testis, lung, retina and fetal organs such as brain, heart and spinal cord, STK33 contains one protein kinase domain and functions as a Ser/Thr protein kinase with a possible role in spermatogenesis. The gene encoding STK33 lies within a region on chromosome 11p15.4 that has been associated with a variety of defects, including Long QT syndrome, T-cell leukemia, Beckwith-Wiedemann syndrome, Usher syndrome 1C and various other malignancies.

REFERENCES

- Amid, C., et al. 2001. Comparative genomic sequencing reveals a strikingly similar architecture of a conserved syntenic region on human chromosome 11p15.3 (including gene ST5) and mouse chromosome 7. *Cytogenet. Cell Genet.* 93: 284-290.
- Mujica, A.O., et al. 2001. A novel serine/threonine kinase gene, STK33, on human chromosome 11p15.3. *Gene* 280: 175-181.
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- Guo, L., et al. 2003. Molecular cloning and characterization of a novel human kinase gene, PDIK1L. *J. Genet.* 82: 27-32.
- Mujica, A.O., et al. 2005. Differential expression pattern of the novel serine/threonine kinase, STK33, in mice and men. *FEBS J.* 272: 4884-4898.
- Woods, I.G. and Talbot, W.S. 2005. The you gene encodes an EGF-CUB protein essential for hedgehog signaling in zebrafish. *PLoS Biol.* 3: E66.

CHROMOSOMAL LOCATION

Genetic locus: STK33 (human) mapping to 11p15.4; Stk33 (mouse) mapping to 7 E3.

SOURCE

STK33 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of STK33 of human origin.

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.

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-169450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STK33 (G-14) is recommended for detection of STK33 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 STK family members.

STK33 (G-14) is also recommended for detection of STK33 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for STK33 siRNA (h): sc-96894, STK33 siRNA (m): sc-153899, STK33 shRNA Plasmid (h): sc-96894-SH, STK33 shRNA Plasmid (m): sc-153899-SH, STK33 shRNA (h) Lentiviral Particles: sc-96894-V and STK33 shRNA (m) Lentiviral Particles: sc-153899-V.

Molecular Weight of STK33: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.