SANTA CRUZ BIOTECHNOLOGY, INC.

STK33 (h): 293T Lysate: sc-174845

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 11 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

1. Amid, C., Bahr, A., Mujica, A., Sampson, N., Bikar, S.E., Winterpacht, A., Zabel, B., Hankeln, T. and Schmidt, E.R. 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.
2. Mujica, A.O., Hankeln, T. and Schmidt, E.R. 2001. A novel serine/threonine kinase gene, STK33, on human chromosome 11p15.3. Gene 280: 175-181.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607670. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Guo, L., Ji, C., Gu, S., Ying, K., Cheng, H., Ni, X., Liu, J., Xie, Y. and Mao, Y. 2003. Molecular cloning and characterization of a novel human kinase gene, PDIK1L. J. Genet. 82: 27-32.
5. Mujica, A.O., Brauksiepe, B., Saaler-Reinhardt, S., Reuss, S. and Schmidt, E.R. 2005. Differential expression pattern of the novel serine/threonine kinase, STK33, in mice and men. FEBS J. 272: 4884-4898.
6. 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.

PRODUCT

STK33 (h): 293T Lysate represents a lysate of human STK33 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

STK33 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive STK33 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PROTOCOLS

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