SANTA CRUZ BIOTECHNOLOGY, INC.

STK19 siRNA (h): sc-95613

BACKGROUND

The phosphorylation of proteins by protein kinases and protein phosphatases is a key event in most nuclear and cytoplasmic processes. The ability to activate and deactivate proteins via phosphorylation or dephosphorylation is important for cell division, cell differentiation, DNA repair and transcription. STK19 (serine/threonine kinase 19), also known as G11, RP1, D6S60, D6S60E or HLA-RP1, is a 368 amino acid protein that localizes to the nucleus and is a member of the superfamily of serine/threonine protein kinases. Expressed in monocytes, hepatocytes, epithelial cells and T- and B-lymphocytes, STK19 is a protein kinase that can catalytically phosphorylate serine and threonine residues on proteins such as histones and caseins. STK19 functions in an ATP-dependent manner and uses divalent cations, including manganese, as cofactors. Multiple isoforms of STK19 exist due to alternative splicing events.

REFERENCES

1. Shen, L., et al. 1994. Structure and genetics of the partially duplicated gene RP located immediately upstream of the complement C4A and the C4B genes in the HLA class III region. Molecular cloning, exon-intron structure, composite retroposon, and breakpoint of gene duplication. J. Biol. Chem. 269: 8466-8476.
2. Sargent, C.A., et al. 1994. Characterisation of the novel gene G11 lying adjacent to the complement C4A gene in the human major histocompatibility complex. Hum. Mol. Genet. 3: 481-488.
3. Gomez-Escobar, N., et al. 1998. The G11 gene located in the major histocompatibility complex encodes a novel nuclear serine/threonine protein kinase. J. Biol. Chem. 273: 30954-30960.
4. Liu, F., et al. 2002. Involvement of both $G_{q/11}$ and G_s proteins in gonadotropin-releasing hormone receptor-mediated signaling in LβT2 cells. J. Biol. Chem. 277: 32099-32108.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604977. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Wadle, A., et al. 2005. Characterization of Hap/BAG-1 variants as RP1 binding proteins with antiapoptotic activity. Int. J. Cancer 117: 896-904.

CHROMOSOMAL LOCATION

Genetic locus: STK19 (human) mapping to 6p21.33.

PRODUCT

STK19 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see STK19 shRNA Plasmid (h): sc-95613-SH and STK19 shRNA (h) Lentiviral Particles: sc-95613-V as alternate gene silencing products.

For independent verification of STK19 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95613A, sc-95613B and sc-95613C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

STK19 siRNA (h) is recommended for the inhibition of STK19 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

STK19 (3B6): sc-100427 is recommended as a control antibody for monitoring of STK19 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor STK19 gene expression knockdown using RT-PCR Primer: STK19 (h)-PR: sc-95613-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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