

STK40 siRNA (h): sc-78599

BACKGROUND

STK40 (serine/threonine-protein kinase 40), also known as sugen kinase 495, is a 435 amino acid protein kinase that may be a negative regulator of NFκB and p53-mediated gene expression. Localized to both the cytoplasm and the nucleus, STK40 is ubiquitously expressed. STK40 has a central serine/threonine protein kinase domain and is homologous to TRB-3, a protein that regulates activation of MAP kinases and inhibits NFκB-mediated gene transcription. Similarly, overexpression of STK40 inhibits NFκB activation triggered by TNF and also inhibits p53-mediated transcription. There are four named isoforms of STK40 that are produced as a result of alternative splicing.

REFERENCES

1. Manning, G., Whyte, D.B., Martinez, R., Hunter, T. and Sudarsanam, S. 2002. The protein kinase complement of the human genome. *Science* 298: 1912-1934.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609437. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Huang, J., Teng, L., Liu, T., Li, L., Chen, D., Li, F., Xu, L.G., Zhai, Z. and Shu, H.B. 2003. Identification of a novel serine/threonine kinase that inhibits TNF-induced NFκB activation and p53-induced transcription. *Biochem. Biophys. Res. Commun.* 309: 774-778.
4. Wu, M., Xu, L.G., Zhai, Z. and Shu, H.B. 2003. SINK is a p65-interacting negative regulator of NFκB-dependent transcription. *J. Biol. Chem.* 278: 27072-27079.
5. Du, K., Herzog, S., Kulkarni, R.N. and Montminy, M. 2003. TRB3: a tribbles homolog that inhibits Akt/PKB activation by Insulin in liver. *Science* 300: 1574-1577.

CHROMOSOMAL LOCATION

Genetic locus: STK40 (human) mapping to 1p34.3.

PRODUCT

STK40 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 STK40 shRNA Plasmid (h): sc-78599-SH and STK40 shRNA (h) Lentiviral Particles: sc-78599-V as alternate gene silencing products.

For independent verification of STK40 (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-78599A, sc-78599B and sc-78599C.

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.

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

STK40 siRNA (h) is recommended for the inhibition of STK40 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

STK40 (LN-87): sc-130476 is recommended as a control antibody for monitoring of STK40 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 STK40 gene expression knockdown using RT-PCR Primer: STK40 (h)-PR: sc-78599-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.