



SLK siRNA (h): sc-76514

BACKGROUND

SLK (Ste20-like kinase), also known as STK2 (serine/threonine protein kinase 2) or se20-9, is a member of the serine/threonine kinase subfamily, Ste20. This subfamily is comprised of several mammalian kinases which exhibit sequence similarity to the *Saccharomyces cerevisiae* serine/threonine kinase Ste20, a protein involved in relaying signals from G protein-coupled receptors to cytosolic MAP kinase cascades. Members of this subfamily include KHS, GLK, YSK1, HPK1, Krs-1, Krs-2, GC kinase, HGK and SLK. SLK is a ubiquitously expressed protein that localizes to the cytoplasm and contains an N-terminal protein kinase domain, a central coiled-coil domain and a C-terminal ATH domain. SLK is activated through cleavage by caspase-3. SLK indirectly associates with microtubules and plays an important role in cellular stress, cell motility, cell death and cytoskeletal dynamics.

REFERENCES

1. Zhang, Y.H., et al. 2002. Expression of the Ste20-like kinase SLK during embryonic development and in the murine adult central nervous system. *Brain Res. Dev. Brain Res.* 139: 205-215.
2. Wagner, S., et al. 2002. Association of the Ste20-like kinase (SLK) with the microtubule. Role in Rac1-mediated regulation of actin dynamics during cell adhesion and spreading. *J. Biol. Chem.* 277: 37685-37692.
3. Cybulsky, A.V., et al. 2004. Renal expression and activity of the germinal center kinase SK2. *Am. J. Physiol. Renal Physiol.* 286: F16-F25.
4. Storbeck, C.J., et al. 2004. Ste20-like kinase SLK displays myofiber type specificity and is involved in C2C12 myoblast differentiation. *Muscle Nerve* 29: 553-564.

CHROMOSOMAL LOCATION

Genetic locus: SLK (human) mapping to 10q24.33.

PRODUCT

SLK 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SLK shRNA Plasmid (h): sc-76514-SH and SLK shRNA (h) Lentiviral Particles: sc-76514-V as alternate gene silencing products.

For independent verification of SLK (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-76514A, sc-76514B and sc-76514C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SLK siRNA (h) is recommended for the inhibition of SLK 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 μ M in 66 μ l. 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

SLK (G-9): sc-515493 is recommended as a control antibody for monitoring of SLK 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 SLK gene expression knockdown using RT-PCR Primer: SLK (h)-PR: sc-76514-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2020. Ste20-like kinase (SLK) mediated control of Actin polymerization is a new mechanism for thin filament associated regulation of airway smooth muscle contraction. *Am. J. Respir. Cell Mol. Biol.* 62: 645-656.
2. Li, J., et al. 2016. Polo-like kinase 1 regulates vimentin phosphorylation at Ser-56 and contraction in smooth muscle. *J. Biol. Chem.* 291: 23693-23703.

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.