



## Lsk siRNA (h): sc-38973

### BACKGROUND

All members of the Src gene family of tyrosine kinases are characterized by a carboxy terminal domain tyrosine, Y527 in the case of Src p60, which is highly phosphorylated in the inactive form of the enzyme, while phosphorylated to a much lesser extent when the enzyme is active. For instance, a mutant of c-Src, in which Y527 is replaced by phenylalanine, is transforming and displays 5- to 10-fold elevated kinase activity compared to its normal counterpart. Csk has been identified as a Src related tyrosine kinase having both SH2 and SH3 domains and a catalytic domain but lacking sequences amino terminal to the SH3 domain as well as the carboxy terminal regulatory sequences. Csk phosphorylates Src on Y527 and also down regulates Fyn, Fyn and Lck by tyrosine phosphorylation of carboxy terminal regulatory sites. A Csk-like protein-tyrosine kinase of mouse cell origin (Ctk), also designated Ntk, and its human homolog, Lsk, have also been described.

### REFERENCES

- Okada, M., et al. 1989. A protein tyrosine kinase involved in regulation of pp60<sup>c-Src</sup> function. *J. Biol. Chem.* 264: 20886-20893.
- Nada, S., et al. 1991. Cloning of a complementary DNA for a protein-tyrosine kinase that specifically phosphorylates a negative regulatory site of pp60<sup>c-Src</sup>. *Nature* 351: 69-72.
- Cooper, J.A., et al. 1993. The when and how of Src regulation. *Cell* 73: 1051-1054.
- Imamoto, A., et al. 1993. Disruption of the Csk gene, encoding a negative regulator of Src family tyrosine kinases, leads to neural tube defects and embryonic lethality in mice. *Cell* 73: 1117-1124.

### CHROMOSOMAL LOCATION

Genetic locus: MATK (human) mapping to 19p13.3.

### PRODUCT

Lsk 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Lsk shRNA Plasmid (h): sc-38973-SH and Lsk shRNA (h) Lentiviral Particles: sc-38973-V as alternate gene silencing products.

For independent verification of Lsk (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-38973A, sc-38973B and sc-38973C.

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

### APPLICATIONS

Lsk siRNA (h) is recommended for the inhibition of Lsk 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  $\mu$ M in 66  $\mu$ 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

Lsk/Ctk (H-1): sc-271174 is recommended as a control antibody for monitoring of Lsk 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Lsk gene expression knockdown using RT-PCR Primer: Lsk (h)-PR: sc-38973-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

### SELECT PRODUCT CITATIONS

- Belot, M.P., et al. 2007. Progesterone increases Csk homologous kinase in HMC-1560 human mast cells and reduces cell proliferation. *J. Cell. Biochem.* 102: 1271-1280.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.