SANTA CRUZ BIOTECHNOLOGY, INC.

# SSH1 siRNA (m): sc-153842

## BACKGROUND

SSH1 (slingshot homolog 1), also known as KIAA1298 or SSH1L, is a 1,049 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and exists as a human homolog of the *Drosophila* slingshot (ssh) protein. Containing one Tyrosine-protein phosphatase domain, SSH1 functions as a protein phosphatase that regulates Actin filament dynamics via the dephosphorylation of target proteins, such as Cofilin, which mediate Actin filament assembly and disassembly. SSH1 is expressed as multiple alternatively spliced isoforms and is subject to post-translational phosphorylation on specific amino acid residues, such as Ser 978. The gene encoding SSH1 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

## REFERENCES


1. Niwa, R., et al. 2002. Control of Actin reorganization by slingshot, a family of phosphatases that dephosphorylate ADF/Cofilin. Cell 108: 233-246.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606778. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Endo, M., et al. 2003. Control of growth cone motility and morphology by LIM kinase and slingshot via phosphorylation and dephosphorylation of Cofilin. J. Neurosci. 23: 2527-2537.
4. Nagata-Ohashi, K., et al. 2004. A pathway of neuregulin-induced activation of Cofilin-phosphatase slingshot and Cofilin in lamellipodia. J. Cell Biol. 165: 465-471.
5. Soosairajah, J., et al. 2005. Interplay between components of a novel LIM kinase-slingshot phosphatase complex regulates Cofilin. EMBO J. 24: 473-486.
6. Nishita, M., et al. 2005. Spatial and temporal regulation of Cofilin activity by LIM kinase and slingshot is critical for directional cell migration. J. Cell Biol. 171: 349-359.
7. Kligys, K., et al. 2007. The slingshot family of phosphatases mediates Rac 1 regulation of Cofilin phosphorylation, Laminin-332 organization, and motility behavior of keratinocytes. J. Biol. Chem. 282: 32520-32528.


## CHROMOSOMAL LOCATION

Genetic locus: Ssh1 (mouse) mapping to 5 F.

## PRODUCT

SSH1 siRNA (m) 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 SSH1 shRNA Plasmid (m): sc-153842-SH and SSH1 shRNA (m) Lentiviral Particles: sc-153842-V as alternate gene silencing products.

For independent verification of SSH1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153842A, sc-153842B and sc-153842C.

## 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

SSH1 siRNA (m) is recommended for the inhibition of SSH1 expression in mouse 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SSH1 gene expression knockdown using RT-PCR Primer: SSH1 (m)-PR: sc-153842-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Le Dour, C., et al. 2022. Actin-microtubule cytoskeletal interplay mediated by MRTF-A/SRF signaling promotes dilated cardiomyopathy caused by LMNA mutations. Nat. Commun. 13: 7886.


## 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.