

HOOK1 siRNA (h): sc-60796

BACKGROUND

Microtubules mediate the spatial organization of diverse membrane-trafficking systems. The HOOK proteins, HOOK1, HOOK2 and HOOK3, comprise a family of cytosolic coiled-coil proteins that contain conserved N-terminal domains, which attach to microtubules; and more divergent C-terminal domains, which mediate binding to organelles. HOOK1, a cytoskeletal linker protein, may play a role in endocytic membrane trafficking. It exists as a homodimer, most likely mediated through its central coiled-coil domain. HOOK1 interacts with VPS18 and is required for spermatid differentiation, in which it is most likely involved in the positioning of the manchette microtubules and the flagellum. HOOK1 localizes primarily to the cytoplasm and does not associate with the Golgi complex, unlike HOOK3, which participates in the organization of the *cis*-Golgi compartment.

REFERENCES

1. Luiro, K., et al. 2004. Interconnections of CLN3, Hook1 and Rab proteins link Batten disease to defects in the endocytic pathway. *Hum. Mol. Genet.* 13: 3017-3027.
2. Weimer, J.M., et al. 2005. Elevation of Hook1 in a disease model of Batten disease does not affect a novel interaction between Ankyrin G and Hook1. *Biochem. Biophys. Res. Commun.* 330: 1176-1181.
3. Simpson, F., et al. 2005. A novel hook-related protein family and the characterization of hook-related protein 1. *Traffic* 6: 442-458.

CHROMOSOMAL LOCATION

Genetic locus: HOOK1 (human) mapping to 1p32.1.

PRODUCT

HOOK1 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 HOOK1 shRNA Plasmid (h): sc-60796-SH and HOOK1 shRNA (h) Lentiviral Particles: sc-60796-V as alternate gene silencing products.

For independent verification of HOOK1 (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-60796A, sc-60796B and sc-60796C.

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.

PROTOCOLS

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

APPLICATIONS

HOOK1 siRNA (h) is recommended for the inhibition of HOOK1 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

HOOK1 (E-6): sc-398233 is recommended as a control antibody for monitoring of HOOK1 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 HOOK1 gene expression knockdown using RT-PCR Primer: HOOK1 (h)-PR: sc-60796-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. Sun, X., et al. 2017. Hook1 inhibits malignancy and epithelial-mesenchymal transition in hepatocellular carcinoma. *Tumour Biol.* 39: 1010428317711098.

RESEARCH USE

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