

# HOOK2 siRNA (h): sc-60798

## 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. HOOK2 (also known as HK2) is 719 amino acids in length. It exists as a homodimer, most likely mediated through its central coiled-coil domain. HOOK2 may associate with SURF-1 and Zic2, and all three may be potential esophageal cancer tumor antigens. HOOK2 expression is strong in the larynx and the esophagus. Unlike HOOK3, which localizes to the Golgi, HOOK2 localizes to discrete subcellular structures not corresponding to early or late endosomes, mitochondria, Golgi complex, endoplasmic reticulum, lysosomes or multivesicular bodies.

## REFERENCES

1. Krämer, H. and Phistry, M. 1999. Genetic analysis of hook, a gene required for endocytic trafficking in *Drosophila*. *Genetics* 151: 675-684.
2. Walenta, J.H., et al. 2001. The Golgi-associated HOOK3 protein is a member of a novel family of microtubule-binding proteins. *J. Cell Biol.* 152: 923-934.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607824. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Shimada, H., et al. 2005. Serological identification of tumor antigens of esophageal squamous cell carcinoma. *Int. J. Oncol.* 26: 77-86.
5. Simpson, F., et al. 2005. A novel hook-related protein family and the characterization of hook-related protein 1. *Traffic* 6: 442-458.
6. Szebenyi, G., et al. 2007. HOOK2 contributes to aggresome formation. *BMC Cell Biol.* 8: 19.

## CHROMOSOMAL LOCATION

Genetic locus: HOOK2 (human) mapping to 19p13.2.

## PRODUCT

HOOK2 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 HOOK2 shRNA Plasmid (h): sc-60798-SH and HOOK2 shRNA (h) Lentiviral Particles: sc-60798-V as alternate gene silencing products.

For independent verification of HOOK2 (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-60798A, sc-60798B and sc-60798C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

HOOK2 siRNA (h) is recommended for the inhibition of HOOK2 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

HOOK2 (G-4): sc-365716 is recommended as a control antibody for monitoring of HOOK2 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HOOK2 gene expression knockdown using RT-PCR Primer: HOOK2 (h)-PR: sc-60798-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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