SANTA CRUZ BIOTECHNOLOGY, INC.

HACS1 siRNA (h): sc-62433

BACKGROUND

HACS1 (hematopoietic adaptor containing SH3 and SAM domains 1) is a 373 amino acid protein encoded by the human gene SAMSN1. HACS1 is a family member of a novel group of putative adaptors and scaffold proteins containing SH3 and SAM (sterile a motif) domains. SH3 and SAM domains are protein interaction motifs that are predominantly seen in signaling molecules, adaptors and scaffold proteins. HACS1 is upregulated by IL-4, IL-13, anti-IgM, and anti-CD40 in human peripheral blood B cells. In murine spleen B cells, HACS1 can also be upregulated by lipopolysaccharide, but not IL-13. Induction of HACS1 by IL-4 is dependent on Stat6 signaling and can also be impaired by inhibitors of phosphatidylinositol 3-kinase, protein kinase C (PKC) and NFκB. HACS1 associates with tyrosine-phosphorylated proteins after B cell activation and binds *in vitro* to the inhibitory molecule paired Ig-like receptor B. HACS1 is preferentially expressed in normal hematopoietic tissues and malignancies, including myeloid leukemia, lymphoma and myeloma.

REFERENCES

1. Mitelman, F., et al. 1997. A breakpoint map of recurrent chromosomal rearrangements in human neoplasia. Nat. Genet. 15: 417-474.
2. Claudio, J.O., et al. 2001. HACS1 encodes a novel SH3-SAM adaptor protein differentially expressed in normal and malignant hematopoietic cells. Oncogene 20: 5373-5377.
3. Cheon, M.S., et al. 2003. Protein levels of genes encoded on chromosomes in fetal Down syndrome brain: challenging the gene dosage effect hypothesis (Part II). Amino Acids 24: 119-125.
4. Zeller, C., et al. 2003. SASH1: a candidate tumor suppressor gene on chromosome 6q24.3 is downregulated in breast cancer. Oncogene 22: 2972-2983.
5. Zhu, Y.X., et al. 2004. The SH3-SAM adaptor HACS1 is upregulated in B cell activation signaling cascades. J. Exp. Med. 200: 737-747.
6. Rimkus, C., et al. 2006. Prognostic significance of downregulated expression of the candidate tumour suppressor gene SASH1 in colon cancer. Br. J. Cancer 95: 1419-1423.

CHROMOSOMAL LOCATION

Genetic locus: SAMSN1 (human) mapping to 21q11.2.

PRODUCT

HACS1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HACS1 shRNA Plasmid (h): sc-62433-SH and HACS1 shRNA (h) Lentiviral Particles: sc-62433-V as alternate gene silencing products.

For independent verification of HACS1 (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-62433A, sc-62433B and sc-62433C.

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

HACS1 siRNA (h) is recommended for the inhibition of HACS1 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 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 HACS1 gene expression knockdown using RT-PCR Primer: HACS1 (h)-PR: sc-62433-PR (20 µl). 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.

PROTOCOLS

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