

HAX-1 siRNA (h): sc-43365

BACKGROUND

HAX-1 (HS1-associated protein X-1 or HS1-binding protein protein X-1), encodes a novel protein. HAX-1 has previously been shown to associate with HS1, a protein specifically expressed in cells of the hematopoietic lineage, and is thought to be involved in signal transduction in B cells and apoptosis. Though first identified as a protein that associates with HS1, recent data has also revealed interactions between HAX-1 and three disparate proteins: Polycystin-2 (derived from the PKD2 gene), a protein linked to polycystic kidney disease; Cortactin; and EBNA-LP (Epstein-Barr virus nuclear antigen leader protein). Additionally, HAX-1 has been identified as a binding partner to the carboxy-terminus of the K15 protein of Kaposi's sarcoma-associated herpes-virus. K15 interacts with cellular HAX-1 *in vitro* and *in vivo*. Furthermore, HAX-1 co-localizes with K15 in the endoplasmic reticulum and mitochondria. Immunofluorescence experiments show that in most cells PKD2 and HAX-1 co-localize in the cell body, but in some cells PKD2 and HAX-1 also are sorted into cellular processes and lamellipodia. The HAX-1 gene is expressed ubiquitously among tissues. Its protein is localized mainly in mitochondria, but also in endoplasmic reticulum and the nuclear envelope of the cell.

REFERENCES

1. Suzuki, Y., et al. 1997. HAX-1, a novel intracellular protein, localized on mitochondria, directly associates with HS1, a substrate of Src family tyrosine kinases. *J. Immunol.* 158: 2736-2744.
2. Gallagher, A.R., et al. 2000. The polycystic kidney disease protein PKD2 interacts with HAX-1, a protein associated with the Actin cytoskeleton. *Proc. Natl. Acad. Sci. USA* 97: 4017-4022.
3. Kawaguchi, Y., et al. 2000. Interaction of Epstein-Barr virus nuclear antigen leader protein (EBNA-LP) with HS1-associated protein X-1: implication of cytoplasmic function of EBNA-LP. *J. Virol.* 74: 10104-10111.
4. Marenholz, I., et al. 2001. Identification of human epidermal differentiation complex (EDC)-encoded genes by subtractive hybridization of entire YACs to a gridded keratinocyte cDNA library. *Genome Res.* 11: 341-355.
5. Dufva, M., et al. 2001. Epstein-Barr virus nuclear antigen 5 interacts with HAX-1, a possible component of the B cell receptor signalling pathway. *J. Gen. Virol.* 82: 1581-1587.

CHROMOSOMAL LOCATION

Genetic locus: HAX1 (human) mapping to 1q21.3.

PRODUCT

HAX-1 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 HAX-1 shRNA Plasmid (h): sc-43365-SH and HAX-1 shRNA (h) Lentiviral Particles: sc-43365-V as alternate gene silencing products.

For independent verification of HAX-1 (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-43365A, sc-43365B and sc-43365C.

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.

APPLICATIONS

HAX-1 siRNA (h) is recommended for the inhibition of HAX-1 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

HAX-1 (B-11): sc-166845 is recommended as a control antibody for monitoring of HAX-1 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 HAX-1 gene expression knockdown using RT-PCR Primer: HAX-1 (h)-PR: sc-43365-PR (20 μ l, 507 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Yan, J., et al. 2015. HAX-1 inhibits apoptosis in prostate cancer through the suppression of caspase-9 activation. *Oncol. Rep.* 34: 2776-2781.

RESEARCH USE

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