SANTA CRUZ BIOTECHNOLOGY, INC.

HSH2 siRNA (m): sc-146094

BACKGROUND

HSH2 (hematopoietic SH2 protein), also known as ALX or HSH2D, is a 352 amino acid nuclear and cytoplasmic protein that is predominantly expressed in spleen and hematopoietic cells such as peripheral blood leukocytes and weakly expressed in prostate, thymus, heart, small intestine and placenta. Containing a SH2 domain, four PXXP polyproline sequences and two possible sites of tyrosine phosphorylation sites, HSH2 interacts with tyrosine kinases Fes and ACK. Considered an adaptor protein, HSH2 participates in tyrosine kinase signaling and may be involved in the regulation of cytokine signaling and cytoskeletal reorganization, in hematopoietic cells. HSH2 may also act to attenuate apoptosis through modulating the apoptotic response by promoting mitochondrial stability. HSH2 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 19p13.11.

REFERENCES

1. Oda, T., et al. 2001. HSH2: a novel SH2 domain-containing adapter protein involved in tyrosine kinase signaling in hematopoietic cells. Biochem. Biophys. Res. Commun. 288: 1078-1086.
2. Greene, T.A., et al. 2003. Cloning and characterization of ALX, an adaptor downstream of CD28. J. Biol. Chem. 278: 45128-45134.
3. Shapiro, M.J., et al. 2004. The ALX Src homology 2 domain is both necessary and sufficient to inhibit T cell receptor/CD28-mediated upregulation of RE/AP. J. Biol. Chem. 279: 40647-40652.
4. Shapiro, M.J., et al. 2005. The carboxyl-terminal segment of the adaptor protein ALX directs its nuclear export during T cell activation. J. Biol. Chem. 280: 38242-38246.
5. Herrin, B.R., et al. 2005. The adaptor protein HSH2 attenuates apoptosis in response to ligation of the B cell antigen receptor complex on the B lymphoma cell line, WEHI-231. J. Biol. Chem. 280: 3507-3515.
6. Herrin, B.R. and Justement, L.B. 2006. Expression of the adaptor protein hematopoietic Src homology 2 is upregulated in response to stimuli that promote survival and differentiation of B cells. J. Immunol. 176: 4163-4172.

CHROMOSOMAL LOCATION

Genetic locus: Hsh2d (mouse) mapping to 8 B3.3.

PRODUCT

HSH2 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 HSH2 shRNA Plasmid (m): sc-146094-SH and HSH2 shRNA (m) Lentiviral Particles: sc-146094-V as alternate gene silencing products.

For independent verification of HSH2 (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-146094A, sc-146094B and sc-146094C.

RESEARCH USE

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

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

HSH2 siRNA (m) is recommended for the inhibition of HSH2 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 HSH2 gene expression knockdown using RT-PCR Primer: HSH2 (m)-PR: sc-146094-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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