SANTA CRUZ BIOTECHNOLOGY, INC.

HPA2 siRNA (h): sc-43852

BACKGROUND

Heparanases degrade heparan sulfate side chains of heparan sulfate proteoglycans (HSPGs) in the extracellular matrix and play an important role in the extravasation of blood-borne tumor cells and inflammatory leukocytes. Upon degradation, heparanases free growth factors and cytokines that stimulate cell proliferation and chemotaxis. Human heparanase 2 (HPA2) and human heparanase 1 (HPA1) are members of the heparanase family. Three alternative splice variants of the HPA2 transcripts encode predicted intracellular membrane-bound proteins of various lengths. HPA2 is expressed in brain, small intestine, prostate, mammary gland, testis, and uterus. While HPA2 is not expressed in normal pancreas, it is expressed in pancreatic tumor cell lines MiaPaca-2 and Panc-1 as well as pancreatic adenocarcinoma. The gene encoding HPA2 maps to human chromosome 10q24.2.

REFERENCES

1. Vlodavsky, I., et al. 1983. Lymphoma cell mediated degradation of sulfated proteoglycans in the subendothelial extracellular matrix: relationship to tumor cell metastasis. Cancer Res. 43: 2704-2711.
2. Bashkin, P., et al. 1989. Basic fibroblast growth factor binds to sunendothelial extracellular matrix and is released by heparitinase and heparin-like molecules. Biochemistry 28: 1737-1743.
3. Vlodasvsky, I., et al. 1990. Extracellular matrix-resident growth factors and enzyme: Possible involvement in tumor metatstasis and angiiogenesis. Cancer Metastasis Rev. 9: 203-226.
4. Vlodavsky, I., et al. 1992. Expression of heparanase by platelets and circulating cells of the immune system: possible involvement in diapedesis and extravasation. Invasion Metastasis 12: 112-127.
5. McKenzie, E., et al. 2000. Cloning and expression of profiling of HPA2, a novel mammalian heparanase family member. Biochem. Biophys. Res. Commun. 276: 1170-1177.

CHROMOSOMAL LOCATION

Genetic locus: HPSE2 (human) mapping to 10q24.2.

PRODUCT

HPA2 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 HPA2 shRNA Plasmid (h): sc-43852-SH and HPA2 shRNA (h) Lentiviral Particles: sc-43852-V as alternate gene silencing products.

For independent verification of HPA2 (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-43852A, sc-43852B and sc-43852C.

PROTOCOLS

See our web site at 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 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

HPA2 siRNA (h) is recommended for the inhibition of HPA2 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 HPA2 gene expression knockdown using RT-PCR Primer: HPA2 (h)-PR: sc-43852-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.