

HPS-5 siRNA (h): sc-44421

BACKGROUND

Hermansky-Pudlak syndrome (HPS) is a rare, genetically heterogeneous, autosomal recessive disorder. It is characterized by oculocutaneous albinism, lysosomal storage defects, and prolonged bleeding due to platelet storage pool deficiency. There are 10 HPS genes encoding HPS proteins that all interact within three distinct, ubiquitously expressed protein complexes or biogenesis of lysosome-related organelle complexes. Defects in these genes cause HPS. Hermansky-Pudlak syndrome 5 protein (HPS-5), also designated Ruby-eye protein 2 homolog (Ru2), plays a role in Integrin general function regulation. It regulates the function and synthesis of lysosomes and other specialized organelles. HPS-5 interacts with HPS-6 to form the BLOC-2 complex, also referred to as biogenesis of lysosome-related organelles complex 2. Defects in the gene encoding for HPS-5 can cause Hermansky-Pudlak syndrome 5.

REFERENCES

1. Wixler, V., et al. 1999. Identification of novel interaction partners for the conserved membrane proximal region of α -integrin cytoplasmic domains. *FEBS Lett.* 445: 351-355.
2. Zhang, Q., et al. 2003. Ru2 and Ru encode mouse orthologs of the genes mutated in human Hermansky-Pudlak syndrome types 5 and 6. *Nat. Genet.* 33: 145-153.
3. Di Pietro, S.M., et al. 2004. Characterization of BLOC-2, a complex containing the Hermansky-Pudlak syndrome proteins HPS-3, HPS-5 and HPS-6. *Traffic* 5: 276-283.
4. Huizing, M., et al. 2004. Cellular, molecular and clinical characterization of patients with Hermansky-Pudlak syndrome type 5. *Traffic* 5: 711-722.
5. Gautam, R., et al. 2004. The Hermansky-Pudlak syndrome 3 (cocoa) protein is a component of the biogenesis of lysosome-related organelles complex-2 (BLOC-2). *J. Biol. Chem.* 279: 12935-12942.

CHROMOSOMAL LOCATION

Genetic locus: HPS5 (human) mapping to 11p15.1.

PRODUCT

HPS-5 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 HPS-5 shRNA Plasmid (h): sc-44421-SH and HPS-5 shRNA (h) Lentiviral Particles: sc-44421-V as alternate gene silencing products.

For independent verification of HPS-5 (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-44421A, sc-44421B and sc-44421C.

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 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

HPS-5 siRNA (h) is recommended for the inhibition of HPS-5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HPS-5 gene expression knockdown using RT-PCR Primer: HPS-5 (h)-PR: sc-44421-PR (20 μ 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.