SANTA CRUZ BIOTECHNOLOGY, INC.

Herc6 siRNA (h): sc-88939

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). Herc6 (HECT domain and RLD 6), also known as probable E3 ubiquitin-protein ligase HERC6 or HECT domain and RCC1-like domain-containing protein 6, is a 1,022 amino acid E3 ubiquitin-protein ligase that accepts ubiquitin from an E2 ubiquitin-conjugating enzyme, which it then transfers to substrates. Localizing to cytosol, Herc6 is expressed in testis, heart, placenta and brain, and contains one HECT (E6AP-type E3 ubiquitin-protein ligase) domain and five RCC1 repeats. Herc6 exists as three alternatively spliced isoforms that are encoded by a gene mapping to human chromosome 4q22.1 and mouse chromosome 6 B3.

REFERENCES

1. Garcia-Gonzalo, F.R. and Rosa, J.L. 2005. The HERC proteins: functional and evolutionary insights. Cell. Mol. Life Sci. 62: 1826-1838.
2. Hochrainer, K., Mayer, H., Baranyi, U., Binder, B., Lipp, J. and Kroismayr, R. 2005. The human HERC family of ubiquitin ligases: novel members, genomic organization, expression profiling, and evolutionary aspects. Genomics 85: 153-164.
3. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609249. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Bernassola, F., Karin, M., Ciechanover, A. and Melino, G. 2008. The HECT family of E3 ubiquitin ligases: multiple players in cancer development. Cancer Cell 14: 10-21.
5. Hochrainer, K., Kroismayr, R., Baranyi, U., Binder, B.R. and Lipp, J. 2008. Highly homologous HERC proteins localize to endosomes and exhibit specific interactions with hPLIC and Nm23B. Cell. Mol. Life Sci. 65: 2105-2117.
6. Marín, I. 2010. Animal HECT ubiquitin ligases: evolution and functional implications. BMC Evol. Biol. 10: 56.

CHROMOSOMAL LOCATION

Genetic locus: HERC6 (human) mapping to 4q22.1.

PRODUCT

Herc6 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 Herc6 shRNA Plasmid (h): sc-88939-SH and Herc6 shRNA (h) Lentiviral Particles: sc-88939-V as alternate gene silencing products.

For independent verification of Herc6 (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-88939A, sc-88939B and sc-88939C.

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

Herc6 siRNA (h) is recommended for the inhibition of Herc6 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 Herc6 gene expression knockdown using RT-PCR Primer: Herc6 (h)-PR: sc-88939-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.