SANTA CRUZ BIOTECHNOLOGY, INC.

UBLCP1 siRNA (h): sc-91982

BACKGROUND

Ubiquitin is a 77 amino acid protein that targets proteins for degradation by the 26S proteasome. Ubiquitin-like proteins are not directly involved in protein degradation, but appear to have many mechanistic similarities with the ubiquitin pathway. UBLCP1 (ubiquitin-like domain containing CTD phosphatase 1), also known as CPUB1, is a 318 amino acid nuclear protein that is widely expressed with highest levels found in lung, testis, placenta and ovary, and upregulated in tumor tissues. Containing a ubiquitin-like domain, FCP1 homology domain and a CTD phosphatase domain, UBLCP1 binds magnesium as a cofactor and may dephosphorylate the C-terminus of RNA Pol II. The gene encoding UBLCP1 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Cri du chat syndrome, acute myelogenous leukemia and myelodysplastic syndrome are associated with defects in chromosome 5.

REFERENCES

1. Zheng, H., et al. 2005. Cloning and characterization of a novel RNA polymerase II C-terminal domain phosphatase. Biochem. Biophys. Res. Commun. 331: 1401-1407.
2. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 609867. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Murru, D., et al. 2008. Cri du chat mosaicism: an unusual case of partial deletion and partial deletion/duplication of the short arm of chromosome 5, leading to an unusual cri du chat phenotype. Genet. Couns. 19: 381-386.
4. Sazawal, S., et al. 2009. Haematological and molecular profile of acute myelogenous leukaemia in India. Indian J. Med. Res. 129: 256-261.
5. Eisenmann, K.M., et al. 2009. 5q- myelodysplastic syndromes: chromosome 5q genes direct a tumor-suppression network sensing Actin dynamics. Oncogene 28: 3429-3441.
6. Wang, J.C., et al. 2010. Large distal 5p deletion with hemifacial microsomia and absence of cri-du-chat syndrome. Clin. Dysmorphol. 19: 38-39.

CHROMOSOMAL LOCATION

Genetic locus: UBLCP1 (human) mapping to 5q33.3.

PRODUCT

UBLCP1 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 UBLCP1 shRNA Plasmid (h): sc-91982-SH and UBLCP1 shRNA (h) Lentiviral Particles: sc-91982-V as alternate gene silencing products.

For independent verification of UBLCP1 (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-91982A, sc-91982B and sc-91982C.

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

UBLCP1 siRNA (h) is recommended for the inhibition of UBLCP1 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 UBLCP1 gene expression knockdown using RT-PCR Primer: UBLCP1 (h)-PR: sc-91982-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.