SANTA CRUZ BIOTECHNOLOGY, INC.

CHTOP siRNA (m): sc-108762

BACKGROUND

CHTOP (chromatin target of PRMT1), also known as friend of PRMT1 protein (FOP), SRAG, SRAG-3, SRAG-5, pp7704, C1orf77 or FL-SRAG, is a 248 amino acid protein that plays an essential role in the ligand-dependent activation of estrogen receptor target genes. CHTOP is tightly associated with chromatin and is modified by both asymmetric and symmetric arginine methylation. Depletion of CHTOP results in almost complete block of estradiol-induced promter occupancy by the estrogen receptor. Also, complete knockdown of CHTOP mRNA in adult erythroid progenitors stongly induces fetal hemoglobin, suggesting that CHTOP is a critical modulator of γ-globin gene expression. There are two isoforms of CHTOP that are produced as a result of alternative splicing events. The gene encoding CHTOP maps to human chromosome 1, the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1.

REFERENCES

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4. Lans, H. and Hoeijmakers, J.H. 2006. Cell biology: aging nucleus gets out of shape. Nature 440: 32-34.
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8. van Dijk, T.B., et al. 2010. Fetal globin expression is regulated by friend of PRMT1. Blood 116: 4349-4352.
9. van Dijk, T.B., et al. 2010. Friend of PRMT1, a novel chromatin target of protein arginine methyltransferases. Mol. Cell. Biol. 30: 260-272.

CHROMOSOMAL LOCATION

Genetic locus: Chtop (mouse) mapping to 3 F1.

PROTOCOLS

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

PRODUCT

CHTOP siRNA (m) is a target-specific 19-25 nt siRNA 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 CHTOP shRNA Plasmid (m): sc-108762-SH and CHTOP shRNA (m) Lentiviral Particles: sc-108762-V as alternate gene silencing 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

CHTOP siRNA (m) is recommended for the inhibition of CHTOP 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 CHTOP gene expression knockdown using RT-PCR Primer: CHTOP (m)-PR: sc-108762-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.