SANTA CRUZ BIOTECHNOLOGY, INC.

PHF8 siRNA (h): sc-91011

BACKGROUND

PHF8 (PHD finger protein 8), also known as JHDM1F (Jumonji C domain-containing histone demethylase 1F), MRXSSD or ZNF422, is a 1,024 amino acid protein belonging to the PHD finger protein family. Members of the PHD finger protein family function as transcriptional regulators that affect gene expression by modulating chromatin structure. PHF8 is an evolutionarily conserved protein containing one PHD-type zinc finger and one JMJC domain, suggesting a possible role for PHF8 in transcription regulation and chromatin remodeling. Mutations in the gene encoding PHF8 can result in MRXSSD (mental retardation X-linked Siderius type), a condition characterized as a syndromic form of mental retardation in which patients may exhibit recognizable physical signs such as facial dysmorphy or skeletal abnormalities or biochemical abnormalities.

REFERENCES

1. Siderius, L.E., et al. 1999. X-linked mental retardation associated with cleft lip/palate maps to Xp11.3-q21.3. Am. J. Med. Genet. 85: 216-220.
2. Kikuno, R., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 197-205.
3. Nakajima, D., et al. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. DNA Res. 9: 99-106.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300560. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Laumonnier, F., et al. 2005. Mutations in PHF8 are associated with X linked mental retardation and cleft lip/cleft palate. J. Med. Genet. 42: 780-786.
6. Abidi, F.E., et al. 2007. A novel mutation in the PHF8 gene is associated with X-linked mental retardation with cleft lip/cleft palate. Clin. Genet. 72: 19-22.
7. Koivisto, A.M., et al. 2007. Screening of mutations in the PHF8 gene and identification of a novel mutation in a Finnish family with XLMR and cleft lip/cleft palate. Clin. Genet. 72: 145-149.

CHROMOSOMAL LOCATION

Genetic locus: PHF8 (human) mapping to Xp11.22.

PRODUCT

PHF8 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 PHF8 shRNA Plasmid (h): sc-91011-SH and PHF8 shRNA (h) Lentiviral Particles: sc-91011-V as alternate gene silencing products.

For independent verification of PHF8 (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-91011A, sc-91011B and sc-91011C.

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

PHF8 siRNA (h) is recommended for the inhibition of PHF8 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 PHF8 gene expression knockdown using RT-PCR Primer: PHF8 (h)-PR: sc-91011-PR (20 µl, 453 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhu, G., et al. 2015. Elevated expression of histone demethylase PHF8 associates with adverse prognosis in patients of laryngeal and hypopharyngeal squamous cell carcinoma. Epigenomics 7: 143-153.

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.