SANTA CRUZ BIOTECHNOLOGY, INC.

PHF1 siRNA (m): sc-39797

BACKGROUND

PHF1 (PHD protein finger 1), also known as polycomb-like protein 1 or hPCl1, is a 567 amino acid member of the PHD finger protein family. Members of the PHD finger protein family function as transcriptional regulators that affect gene expression by modulating chromatin structure. With a subcellular localization to the nucleus, PHF1 is widely expressed in tissues, with high expression in pancreas, heart and skeletal muscle and low expression in liver, lung, kidney, brain and placenta. PHF1 contains two PHD-type zinc finger domains, which may contribute to the transcriptional activity of PHF1. PHF1 is thought to interact with ENX-1, a component of PRC2 (polycomb repressive complex 2), increasing the gene silencing activity of PRC2. PHF1 exists as two isoforms produced by alternative splicing.

REFERENCES

1. Coulson, M., et al. 1998. The identification and localization of a human gene with sequence similarity to polycomblike of *Drosophila melanogaster*. Genomics 48: 381-383.
2. O'Connell, S., et al. 2001. Polycomblike PHD fingers mediate conserved interaction with enhancer of zeste protein. J. Biol. Chem. 276: 43065-43073.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602881. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Villa, R., et al. 2007. Role of the polycomb repressive complex 2 in acute promyelocytic leukemia. Cancer Cell 11: 513-525.
5. Cao, R., et al. 2008. Role of hPHF1 in H3K27 methylation and Hox gene silencing. Mol. Cell. Biol. 28: 1862-1872.
6. Sarma, K., et al. 2008. Ezh2 requires PHF1 to efficiently catalyze H3 lysine 27 trimethylation *in vivo*. Mol. Cell. Biol. 28: 2718-2731.
7. Hong, Z., et al. 2008. A polycomb group protein, PHF1, is involved in the response to DNA double-strand breaks in human cell. Nucleic Acids Res. 36: 2939-2947.

CHROMOSOMAL LOCATION

Genetic locus: Phf1 (mouse) mapping to 17 A3.3.

PRODUCT

PHF1 siRNA (m) 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 PHF1 shRNA Plasmid (m): sc-39797-SH and PHF1 shRNA (m) Lentiviral Particles: sc-39797-V as alternate gene silencing products.

For independent verification of PHF1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39797A, sc-39797B and sc-39797C.

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 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

PHF1 siRNA (m) is recommended for the inhibition of PHF1 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.

GENE EXPRESSION MONITORING

PHF1 (H-1): sc-515013 is recommended as a control antibody for monitoring of PHF1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PHF1 gene expression knockdown using RT-PCR Primer: PHF1 (m)-PR: sc-39797-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.