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# PHF2 siRNA (m): sc-152212

## BACKGROUND

PHF2 (PHD finger protein 2), also known as JHDM1E (Jumonji C domain-containing histone demethylase 1E) or GRC5, is a 1,101 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. Expressed in a wide variety of tissues, PHF2 localizes to the nucleus and contains one PHD-type zinc finger and one JMJC domain, suggesting a possible role for PHF2 in transcription regulation and chromatin remodeling. The gene encoding PHF2 lies in the candidate region for hereditary sensory neuropathy type I (HSN1), a disorder characterized by sensory dysfunction. PHF2 exists as two isoforms produced by alternative splicing, designated isoform 1 and 2 respectively.

## REFERENCES

1. Ishikawa, K., Nagase, T., Suyama, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 169-176.
2. Hasenpusch-Theil, K., Chadwick, B.P., Theil, T., Heath, S.K., Wilkinson, D.G. and Frischauf, A.M. 1999. PHF2, a novel PHD finger gene located on human chromosome 9q22. Mamm. Genome 10: 294-298.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604351. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Laumonier, F., Holbert, S., Ronce, N., Faravelli, F., Lenzner, S., Schwartz, C.E., Lespinasse, J., Van Esch, H., Lacombe, D., Goizet, C., Phan-Dinh Tuy, F., van Bokhoven, H., Fryns, J.P., Chelly, J., Ropers, H.H., Moraine, C., et al. 2005. Mutations in PHF8 are associated with X linked mental retardation and cleft lip/cleft palate. J. Med. Genet. 42: 780-786.

## CHROMOSOMAL LOCATION

Genetic locus: Phf2 (mouse) mapping to 13 A5.

## PRODUCT

PHF2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHF2 shRNA Plasmid (m): sc-152212-SH and PHF2 shRNA (m) Lentiviral Particles: sc-152212-V as alternate gene silencing products.

For independent verification of PHF2 (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-152212A, sc-152212B and sc-152212C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

PHF2 siRNA (m) is recommended for the inhibition of PHF2 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  $\mu$ M in 66  $\mu$ l. 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 PHF2 gene expression knockdown using RT-PCR Primer: PHF2 (m)-PR: sc-152212-PR (20  $\mu$ l). 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.