

PHF7 siRNA (m): sc-152220

BACKGROUND

Members of the PHD finger protein family function as transcriptional regulators that affect gene expression by modulating chromatin structure. PHF7 (PHD finger protein 7), also known as testis development protein NYD-SP6, is a 381 amino acid nuclear protein that contains one PHD-type zinc finger and one RING-type zinc finger, suggesting involvement in transcriptional regulation events. PHF7 is highly expressed in Sertoli cells, but not in germ cells of adult testis. In embryonic testis, the expression of PHF7 is 30 times lower. PHF7 is also expressed at high levels in pancreas, spleen, lung, brain, placenta, white blood cells, liver and colon. The gene encoding PHF7 is located on human chromosome 3p21.1, which is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Xiao, J., Xu, M., Li, J., Chang Chan, H., Lin, M., Zhu, H., Zhang, W., Zhou, Z., Zhao, B. and Sha, J. 2002. NYD-SP6, a novel gene potentially involved in regulating testicular development/spermatogenesis. *Biochem. Biophys. Res. Commun.* 291: 101-110.
2. Muzny, D.M., Scherer, S.E., Kaul, R., Wang, J., Yu, J., Sudbrak, R., Buhay, C.J., Chen, R., Cree, A., Ding, Y., Dugan-Rocha, S., Gill, R., Gunaratne, P., Harris, R.A., Hawes, A.C., Hernandez, J., Hodgson, A.V., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. *Nature* 440: 1194-1198.
3. Kozyreva, A.A., Trukhina, A.V., Sazanova, A.L. and Smirnov, A.F. 2007. Localization of the Notl clones from human chromosome 3 on quail microchromosomes. *Genetika* 43: 734-741.
4. Rossi, P., Lolicato, F., Grimaldi, P., Dolci, S., Di Sauro, A., Filipponi, D. and Geremia, R. 2008. Transcriptome analysis of differentiating spermatogonia stimulated with kit ligand. *Gene Expr. Patterns* 8: 58-70.
5. Champagne, K.S. and Kutateladze, T.G. 2009. Structural insight into histone recognition by the ING PHD fingers. *Curr. Drug Targets* 10: 432-441.
6. Kessler, R., Hausmann, G. and Basler, K. 2009. The PHD domain is required to link *Drosophila* Pygopus to Legless/ β -catenin and not to Histone H3. *Mech. Dev.* 126: 752-759.
7. Chakravarty, S., Zeng, L. and Zhou, M.M. 2009. Structure and site-specific recognition of Histone H3 by the PHD finger of human autoimmune regulator. *Structure* 17: 670-679.

CHROMOSOMAL LOCATION

Genetic locus: Phf7 (mouse) mapping to 14 B.

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.

PRODUCT

PHF7 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHF7 shRNA Plasmid (m): sc-152220-SH and PHF7 shRNA (m) Lentiviral Particles: sc-152220-V as alternate gene silencing products.

For independent verification of PHF7 (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-152220A, sc-152220B and sc-152220C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PHF7 siRNA (m) is recommended for the inhibition of PHF7 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 μ M in 66 μ 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 PHF7 gene expression knockdown using RT-PCR Primer: PHF7 (m)-PR: sc-152220-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.