

PHF5A siRNA (m): sc-76120

BACKGROUND

PHF5A (PHD finger protein 5A), also known as SF3b14b or INI, is a 110 amino acid protein that contains one PHD finger-like domain and localizes to the nucleus. One of several members of the PHD finger superfamily, PHF5A functions as a subunit of the SF3A splicing factor complex, a heterotrimeric complex comprised of multiple subunits that act in tandem to mediate the binding of U2 snRNP to the branchpoint sequence (BPS) in pre-mRNA. The SF3A complex is necessary for the conversion of 15S U2 snRNP into the active 17S protein that performs directly in pre-mRNA splicing events. In conjunction with other members of the SF3A complex, PHF5A plays an important role in mediating pre-mRNA splicing and transcription. The gene encoding PHF5A maps to human chromosome 22q13.2, which houses over 500 genes and is the second smallest human chromosome.

REFERENCES

1. Trappe, R., et al. 2002. Identification and characterization of a novel murine multigene family containing a PHD-finger-like motif. *Biochem. Biophys. Res. Commun.* 293: 816-826.
2. Will, C.L., et al. 2002. Characterization of novel SF3b and 17S U2 snRNP proteins, including a human Prp5p homologue and an SF3b DEAD-box protein. *EMBO J.* 21: 4978-4988.
3. Zhou, Z., et al. 2002. Comprehensive proteomic analysis of the human spliceosome. *Nature* 419: 182-185.
4. Will, C.L., et al. 2004. The human 18S U11/U12 snRNP contains a set of novel proteins not found in the U2-dependent spliceosome. *RNA* 10: 929-941.
5. Rzymiski, T., et al. 2008. PHF5A represents a bridge protein between splicing proteins and ATP-dependent helicases and is differentially expressed during mouse spermatogenesis. *Cytogenet. Genome Res.* 121: 232-244.
6. Kuwasako, K., et al. 2008. Complex assembly mechanism and an RNA-binding mode of the human p14-SF3b155 spliceosomal protein complex identified by NMR solution structure and functional analyses. *Proteins* 71: 1617-1636.

CHROMOSOMAL LOCATION

Genetic locus: Phf5a (mouse) mapping to 15 E1.

PRODUCT

PHF5A 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 PHF5A shRNA Plasmid (m): sc-76120-SH and PHF5A shRNA (m) Lentiviral Particles: sc-76120-V as alternate gene silencing products.

For independent verification of PHF5A (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-76120A, sc-76120B and sc-76120C.

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

PHF5A siRNA (m) is recommended for the inhibition of PHF5A 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 PHF5A gene expression knockdown using RT-PCR Primer: PHF5A (m)-PR: sc-76120-PR (20 μ 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.

PROTOCOLS

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