



PHF3 siRNA (h): sc-95062

BACKGROUND

PHF3 (PHD finger protein 3) is a 2,039 amino acid ubiquitously expressed protein that is phosphorylated upon DNA damage by either ATM or ATR. PHF3 contains a PHD finger motif, a proline-rich region, a TFIIS domain and two bipartite nuclear localization signals. Since these motifs are frequently found in proteins involved in transcription, PHF3 may function as a transcription factor. Expression of PHF3 is significantly reduced in anaplastic astrocytomas, glioblastomas and glioblastoma cell lines, suggesting that PHF3 plays a role as a tumor suppressor. Antibodies against PHF3 are present in some patients afflicted with glioblastoma multiforme and presence of the antibody correlates to significantly better survival rates. There are two isoforms of PHF3 that are produced as a result of alternative splicing events.

REFERENCES

1. Nagase, T., Seki, N., Ishikawa, K., Ohira, M., Kawarabayashi, Y., Ohara, O., Tanaka, A., Kotani, H., Miyajima, N. and Nomura, N. 1996. Prediction of the coding sequences of unidentified human genes. VI. The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain. *DNA Res.* 3: 321-329, 341.
2. Fischer, U., Struss, A.K., Hemmer, D., Michel, A., Henn, W., Steudel, W.I. and Meese, E. 2001. PHF3 expression is frequently reduced in glioma. *Cytogenet. Cell Genet.* 94: 131-136.
3. Struss, A.K., Romeike, B.F., Munnia, A., Nastainczyk, W., Steudel, W.I., König, J., Ohgaki, H., Feiden, W., Fischer, U. and Meese, E. 2001. PHF3-specific antibody responses in over 60% of patients with glioblastoma multiforme. *Oncogene* 20: 4107-4114.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607789. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Pallasch, C.P., Struss, A.K., Munnia, A., König, J., Steudel, W.I., Fischer, U. and Meese, E. 2005. Autoantibodies against GLEA2 and PHF3 in glioblastoma: tumor-associated autoantibodies correlated with prolonged survival. *Int. J. Cancer* 117: 456-459.
6. Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
7. Lau, K.S., Khan, S. and Dennis, J.W. 2008. Genome-scale identification of UDP-GlcNAc-dependent pathways. *Proteomics* 8: 3294-3302.

CHROMOSOMAL LOCATION

Genetic locus: PHF3 (human) mapping to 6q12.

PROTOCOLS

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

PRODUCT

PHF3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHF3 shRNA Plasmid (h): sc-95062-SH and PHF3 shRNA (h) Lentiviral Particles: sc-95062-V as alternate gene silencing products.

For independent verification of PHF3 (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-95062A, sc-95062B and sc-95062C.

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

PHF3 siRNA (h) is recommended for the inhibition of PHF3 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 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 PHF3 gene expression knockdown using RT-PCR Primer: PHF3 (h)-PR: sc-95062-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.