

CWH43 siRNA (h): sc-88948

BACKGROUND

CWH43 (cell wall biogenesis protein 43 C-terminal homolog), also known as PGAP2IP (PGAP2-interacting protein), is a 699 amino acid multi-pass membrane protein that belongs to the PGAP2IP family. During GPI-anchor maturation, CWH43 is involved in lipid remodeling and is known to interact with FRAG1 (PGAP2). CWH43 is N-glycosylated and is encoded by a gene that maps to human chromosome 4p11. Chromosome 4 represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntington gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is on chromosome 4. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Davis, M. 1991. Public-academic linkages in western States. *Community Ment. Health J.* 27: 411-423.
2. Bonaventure, J., Rousseau, F., Legeai-Mallet, L., Le Merrer, M., Munnich, A. and Maroteaux, P. 1996. Common mutations in the fibroblast growth factor receptor 3 (FGFR 3) gene account for achondroplasia, hypochondroplasia, and thanatophoric dwarfism. *Am. J. Med. Genet.* 63: 148-154.
3. Kalchman, M.A., Graham, R.K., Xia, G., Koide, H.B., Hodgson, J.G., Graham, K.C., Goldberg, Y.P., Gietz, R.D., Pickart, C.M. and Hayden, M.R. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. *J. Biol. Chem.* 271: 19385-19394.
4. Howard, T.D., Guttmacher, A.E., McKinnon, W., Sharma, M., McKusick, V.A. and Jabs, E.W. 1997. Autosomal dominant postaxial polydactyly, nail dystrophy, and dental abnormalities map to chromosome 4p16, in the region containing the Ellis-van Creveld syndrome locus. *Am. J. Hum. Genet.* 61: 1405-1412.
5. Singhrao, S.K., Thomas, P., Wood, J.D., MacMillan, J.C., Neal, J.W., Harper, P.S. and Jones, A.L. 1998. Huntingtin protein colocalizes with lesions of neurodegenerative diseases: an investigation in Huntington's, Alzheimer's, and Pick's diseases. *Exp. Neurol.* 150: 213-222.
6. Krakow, D., Salazar, D., Wilcox, W.R., Rimoin, D.L. and Cohn, D.H. 2000. Exclusion of the Ellis-van Creveld region on chromosome 4p16 in some families with asphyxiating thoracic dystrophy and short-rib polydactyly syndromes. *Eur. J. Hum. Genet.* 8: 645-648.
7. Dobson, C.M., Wai, T., Leclerc, D., Wilson, A., Wu, X., Dore, C., Hudson, T., Rosenblatt, D.S. and Gravel, R.A. 2002. Identification of the gene responsible for the cblA complementation group of vitamin B12-responsive methylmalonic acidemia based on analysis of prokaryotic gene arrangements. *Proc. Natl. Acad. Sci. USA* 99: 15554-15559.

CHROMOSOMAL LOCATION

Genetic locus: CWH43 (human) mapping to 4p11.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

CWH43 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 CWH43 shRNA Plasmid (h): sc-88948-SH and CWH43 shRNA (h) Lentiviral Particles: sc-88948-V as alternate gene silencing products.

For independent verification of CWH43 (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-88948A, sc-88948B and sc-88948C.

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

CWH43 siRNA (h) is recommended for the inhibition of CWH43 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 CWH43 gene expression knockdown using RT-PCR Primer: CWH43 (h)-PR: sc-88948-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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