SANTA CRUZ BIOTECHNOLOGY, INC.

WDR57 siRNA (h): sc-78975

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The Power to Question

BACKGROUND

WDR57 (WD repeat-containing protein 57), also known as SNRNP40 (small nuclear ribonucleoprotein 40 kDa protein), PRP8BP (prp8-binding protein) or SFP38 (splicing factor 38 kDa protein), is a 357 amino acid nuclear protein that contains seven WD repeats. WDR57 interacts with PRP8 and is a component of the U5 small nuclear ribonucleoprotein (snRNP) complex. The U5 snRNP is part of the spliceosome, a multiprotein complex that catalyzes the removal of introns from pre-messenger RNAs. The gene that encodes WDR57 consists of more than 37,000 bases and maps to human chromosome 1p35.2. Comprising nearly 8% of the human genome, chromosome 1 spans 260 million base pairs, contains over 3,000 genes and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

1. Eudy, J.D., Yao, S., Weston, M.D., Ma-Edmonds, M., Talmadge, C.B., Cheng, J.J., Kimberling, W.J. and Sumegi, J. 1998. Isolation of a gene encoding a novel member of the nuclear receptor superfamily from the critical region of Usher syndrome type IIa at 1q41. Genomics 50: 382-384.
2. Achsel, T., Ahrens, K., Brahms, H., Teigelkamp, S. and Lührmann, R. 1998. The human U5-220kD protein (hPrp8) forms a stable RNA-free complex with several U5-specific proteins, including an RNA unwindase, a homologue of ribosomal elongation factor EF-2, and a novel WD-40 protein. Mol. Cell. Biol. 18: 6756-6766.
3. Neubauer, G., King, A., Rappsilber, J., Calvio, C., Watson, M., Ajuh, P., Sleeman, J., Lamond, A. and Mann, M. 1998. Mass spectrometry and EST-database searching allows characterization of the multi-protein spliceosome complex. Nat. Genet. 20: 46-50.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607797. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Plasilova, M., Russell, A.M., Wanner, A., Wolf, A., Dobbie, Z., Müller, H.J. and Heinimann, K. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. Eur. J. Hum. Genet. 12: 365-371.
6. Betarbet, R., Anderson, L.R., Gearing, M., Hodges, T.R., Fritz, J.J., Lah, J.J. and Levey, A.I. 2008. Fas-associated factor 1 and Parkinson's disease. Neurobiol. Dis. 31: 309-315.
7. Balcárková, J., Urbánková, H., Scudla, V., Holzerová, M., Bacovský, J., Indrák, K. and Jarosová, M. 2009. Gain of chromosome arm 1q in patients in relapse and progression of multiple myeloma. Cancer Genet. Cytogenet. 192: 68-72.
8. Yokoi, T., Koide, R., Matsuoka, K., Nakagawa, A. and Azuma, N. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. Graefes Arch. Clin. Exp. Ophthalmol. 247: 715-718.

CHROMOSOMAL LOCATION

Genetic locus: SNRNP40 (human) mapping to 1p35.2.

PRODUCT

WDR57 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WDR57 shRNA Plasmid (h): sc-78975-SH and WDR57 shRNA (h) Lentiviral Particles: sc-78975-V as alternate gene silencing products.

For independent verification of WDR57 (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-78975A, sc-78975B and sc-78975C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

WDR57 siRNA (h) is recommended for the inhibition of WDR57 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 µM in 66 µl. 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 WDR57 gene expression knockdown using RT-PCR Primer: WDR57 (h)-PR: sc-78975-PR (20 µl). 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.