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SANTA CRUZ BIOTECHNOLOGY, INC.

WHDC1 siRNA (m): sc-155347

BACKGROUND

WHDC1, also known as Whamm (WAS protein homolog associated with actin, Golgi membranes and microtubules), is a 793 amino acid protein that contains two WH2 domains. The WHDC1 protein acts as a nucleation-promoting factor (NPF) that stimulates Arp2/3-mediated actin polymerization both at the Golgi apparatus and along tubular membranes. Involved as a regulator of Golgi positioning and morphology, WHDC1 participates in vesicle transport between the endoplasmic reticulum and the Golgi complex. The N-terminal region of WHDC1 associates with membranes, while the coiled-coil region binds to microtubules and the WH2 domains promotes actin nucleation. Existing as four alternatively spliced isoforms, the WHDC1 gene is conserved in human, chimpanzee, canine, bovine, rat, chicken and zebrafish, and maps to human chromosome 15q25.2. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome. Tay-Sachs disease is a lethal disorder associated with mutations of the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is associated with chromosome 15 through the FBN1 gene.

REFERENCES

1. Shibata, K., et al. 2000. RIKEN integrated sequence analysis (RISA) system—384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10: 1757-1771.
2. Carninci, P., et al. 2005. The transcriptional landscape of the mammalian genome. Science 309: 1559-1563.
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4. Zody, M.C., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. Nature 440: 671-675.
5. Cachón-González, M.B., et al. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. Proc. Natl. Acad. Sci. USA 103: 10373-10378.
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CHROMOSOMAL LOCATION

Genetic locus: Whamm (mouse) mapping to 7 D3.

PRODUCT

WHDC1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WHDC1 shRNA Plasmid (m): sc-155347-SH and WHDC1 shRNA (m) Lentiviral Particles: sc-155347-V as alternate gene silencing products.

For independent verification of WHDC1 (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-155347A, sc-155347B and sc-155347C.

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

WHDC1 siRNA (m) is recommended for the inhibition of WHDC1 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 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 WHDC1 gene expression knockdown using RT-PCR Primer: WHDC1 (m)-PR: sc-155347-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.