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SANTA CRUZ BIOTECHNOLOGY, INC.

WDR77 siRNA (m): sc-155317

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. Proteins that contain WD-repeats participate in a wide range of cellular functions, however they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. WDR77 (WD-repeat domain 77), also known as MEP50, is a 342 amino acid protein that contains five WD-repeats and is thought to regulate the early assembly of U snRNPs. Additionally, WDR77 functions as a component of a PRMT5-containing methyltransferase complex that converts arginines to dimethylarginines in a variety of spliceosomal Sm proteins. This conversion subsequently targets Sm proteins to the survival of motor neurons (SMN) complex where they are assembled into ribonucleoprotein core particles. Based on its involvement with the methyltransferase complex, WDR77 is thought to be involved in the development of testicular tumors, suggesting a role in carcinogenesis.

REFERENCES

1. Friesen, W.J., Wyce, A., Paushkin, S., Abel, L., Rappsilber, J., Mann, M. and Dreyfuss, G. 2002. A novel WD repeat protein component of the methylosome binds Sm proteins. J. Biol. Chem. 277: 8243-8247.
2. Licciardo, P., Amente, S., Ruggiero, L., Monti, M., Pucci, P., Lania, L. and Majello, B. 2003. The FCP1 phosphatase interacts with RNA polymerase II and with MEP50 a component of the methylosome complex involved in the assembly of snRNP. Nucleic Acids Res. 31: 999-1005.
3. Cavey, M., Hijal, S., Zhang, X. and Suter, B. 2005. *Drosophila* valois encodes a divergent WD protein that is required for Vasa localization and Oskar protein accumulation. Development 132: 459-468.
4. Anne, J. and Mechler, B.M. 2005. Valois, a component of the nuage and pole plasm, is involved in assembly of these structures, and binds to Tudor and the methyltransferase Capsulεen. Development 132: 2167-2177.

CHROMOSOMAL LOCATION

Genetic locus: Wdr77 (mouse) mapping to 3 F2.2.

PRODUCT

WDR77 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 WDR77 shRNA Plasmid (m): sc-155317-SH and WDR77 shRNA (m) Lentiviral Particles: sc-155317-V as alternate gene silencing products.

For independent verification of WDR77 (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-155317A, sc-155317B and sc-155317C.

PROTOCOLS

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

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

WDR77 siRNA (m) is recommended for the inhibition of WDR77 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.

GENE EXPRESSION MONITORING

WDR77 (FG-4): sc-100899 is recommended as a control antibody for monitoring of WDR77 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor WDR77 gene expression knockdown using RT-PCR Primer: WDR77 (m)-PR: sc-155317-PR (20 µl, 430 bp). 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.