SANTA CRUZ BIOTECHNOLOGY, INC.

WDR13 siRNA (m): sc-155258

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The Power to Question

BACKGROUND

WD repeat containing protein 13 (WDR13) is a 485 amino acid protein that is widely expressed in various adult and fetal tissues. 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. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. The gene encoding WDR13, which maps to chromosome Xp11.23, contains nine exons, eight introns and six WD-repeats. The subcellular localization of the WDR13 protein in the nucleus suggests that it may have a regulatory function. Two isoforms of this protein exist as a result of alternative splicing events.

REFERENCES

1. Claudio, J.O., et al. 1999. Cloning and expression analysis of a novel WD repeat gene, WDR3, mapping to 1p12-p13. Genomics 59: 85-89.
2. Di Benedetto, A.J., et al. 2001. Cloning and molecular characterization of a novel gene encoding a WD-repeat protein expressed in restricted areas of adult rat brain. Gene 271: 21-31.
3. Koshizuka, Y., et al. 2001. Isolation, characterization, and mapping of the mouse and human WDR8 genes, members of a novel WD-repeat gene family. Genomics 72: 252-259.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300512. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Wdr13 (mouse) mapping to X A1.1.

PRODUCT

WDR13 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 WDR13 shRNA Plasmid (m): sc-155258-SH and WDR13 shRNA (m) Lentiviral Particles: sc-155258-V as alternate gene silencing products.

For independent verification of WDR13 (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-155258A, sc-155258B and sc-155258C.

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

WDR13 siRNA (m) is recommended for the inhibition of WDR13 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

WDR13 (B-12): sc-518213 is recommended as a control antibody for monitoring of WDR13 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 WDR13 gene expression knockdown using RT-PCR Primer: WDR13 (m)-PR: sc-155258-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Singh, V.P., et al. 2012. Lack of Wdr13 gene in mice leads to enhanced pancreatic β cell proliferation, hyperinsulinemia and mild obesity. PLoS ONE 7: e38685.
2. Mitra, S., et al. 2016. Implication of genetic deletion of Wdr13 in mice: mild anxiety, better performance in spatial memory task, with upregulation of multiple synaptic proteins. Front. Mol. Neurosci. 9: 73.
3. Singh, S., et al. 2020. Molecular characterization of Wdr13 knockout female mice uteri: a model for human endometrial hyperplasia. Sci. Rep. 10: 14621.

RESEARCH USE

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