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WDR1 siRNA (m): sc-155255

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, which 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 involving signal transduction, apoptosis, transcriptional regulation, cell cycle control. WD repeats serve as sites for protein-protein interaction and some seem to mediate the assembly of protein complexes. With 11 WD repeats, WDR1 (WD repeat domain 1), also known as AIP1 or NORI-1, is a 606 amino acid protein that localizes to the cytoskeleton and is a member of the WD repeat AIP1 family. Existing as two alternatively spliced isoforms, WDR1 induces disassembly of actin filaments in conjunction with ADF/cofilin family proteins.

REFERENCES

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2. Fujibuchi, T., et al. 2005. AIP1/WDR1 supports mitotic cell rounding. *Biochem. Biophys. Res. Commun.* 327: 268-275.
3. Saeki, M., et al. 2006. Monad, a WD40 repeat protein, promotes apoptosis induced by TNF- α . *Biochem. Biophys. Res. Commun.* 342: 568-572.
4. Kile, B.T., et al. 2007. Mutations in the cofilin partner AIP1/WDR1 cause autoinflammatory disease and macrothrombocytopenia. *Blood* 110: 2371-2380.
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6. Kato, A., et al. 2008. Critical roles of actin-interacting protein 1 in cytokinesis and chemotactic migration of mammalian cells. *Biochem. J.* 414: 261-270.
7. Adler, H.J., et al. 2008. WDR1 presence in the songbird basilar papilla. *Hear. Res.* 240: 102-111.
8. Kueh, H.Y., et al. 2008. Actin disassembly by cofilin, coronin, and AIP1 occurs in bursts and is inhibited by barbed-end cappers. *J. Cell Biol.* 182: 341-353.

CHROMOSOMAL LOCATION

Genetic locus: *Wdr1* (mouse) mapping to 5 B3.

PRODUCT

WDR1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WDR1 shRNA Plasmid (m): sc-155255-SH and WDR1 shRNA (m) Lentiviral Particles: sc-155255-V as alternate gene silencing products.

For independent verification of WDR1 (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-155255A, sc-155255B and sc-155255C.

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

WDR1 siRNA (m) is recommended for the inhibition of WDR1 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 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.

GENE EXPRESSION MONITORING

WDR1 (B-10): sc-393159 is recommended as a control antibody for monitoring of WDR1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 WDR1 gene expression knockdown using RT-PCR Primer: WDR1 (m)-PR: sc-155255-PR (20 μ l). 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.