SANTA CRUZ BIOTECHNOLOGY, INC.

WDR48 siRNA (h): sc-77917

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 eight WD repeats, WDR48 (WD repeat-containing protein 48), also known as USP1-associated factor 1 and p80, is a 677 amino acid protein that functions to regulate deubiquitinating complexes via activation of USP1, USP12 and USP46. WDR48 enhances deubiquitination by increasing catalytic turnover without increasing the affinity of deubiquitinating enzymes for the substrate. WDR48 is ubiquitously expressed and is mainly localized to the cytoplasm. There are five isoforms of WDR48 that are expressed as a result of alternative splicing events.

REFERENCES

1. Neer, E.J., et al. 1994. The ancient regulatory-protein family of WD-repeat proteins. Nature 371: 297-300.
2. Smith, T.F., et al. 1999. The WD repeat: a common architecture for diverse functions. Trends Biochem. Sci. 24: 181-185.
3. Yu, L., et al. 2000. Thirty-plus functional families from a single motif. Protein Sci. 9: 2470-2476.
4. Park, J., et al. 2002. Herpesviral protein targets a cellular WD repeat endosomal protein to downregulate T lymphocyte receptor expression. Immunity 17: 221-233.
5. Park, J., et al. 2003. Distinct roles of cellular Lck and p80 proteins in herpesvirus saimiri Tip function on lipid rafts. J. Virol. 77: 9041-9051.
6. Cohn, M.A., et al. 2007. A UAF1-containing multisubunit protein complex regulates the Fanconi anemia pathway. Mol. Cell 28: 786-797.

CHROMOSOMAL LOCATION

Genetic locus: WDR48 (human) mapping to 3p22.2.

PRODUCT

WDR48 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 WDR48 shRNA Plasmid (h): sc-77917-SH and WDR48 shRNA (h) Lentiviral Particles: sc-77917-V as alternate gene silencing products.

For independent verification of WDR48 (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-77917A, sc-77917B and sc-77917C.

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

WDR48 siRNA (h) is recommended for the inhibition of WDR48 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.

GENE EXPRESSION MONITORING

WDR48 (E-4): sc-514473 is recommended as a control antibody for monitoring of WDR48 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 WDR48 gene expression knockdown using RT-PCR Primer: WDR48 (h)-PR: sc-77917-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.