SANTA CRUZ BIOTECHNOLOGY, INC.

CARP-1 siRNA (h): sc-77153

BACKGROUND

CARP-1 (cell division cycle and apoptosis regulator 1), also known as CCAR1 or DIS, is a 1,150 amino acid protein that localizes to the perinuclear region of the cytoplasm and contains one SAP domain. Expressed in several epithelial cancer cell lines, including breast, colon, prostate and leukemia, CARP-1 is involved in apoptotic signaling, as well as in cell cycle progression and cell proliferation via interaction with c-Myc and cyclin B1. CARP-1 is subject to DNA damage-induced phosphorylation, probably by ATM or ATR. The gene encoding CARP-1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Rishi, A.K., et al. 2003. Identification and characterization of a cell cycle and apoptosis regulatory protein-1 as a novel mediator of apoptosis signaling by retinoid CD437. J. Biol. Chem. 278: 33422-33435.
2. Rishi, A.K., et al. 2006. Cell cycle- and apoptosis-regulatory protein-1 is involved in apoptosis signaling by epidermal growth factor receptor. J. Biol. Chem. 281: 13188-13198.
3. Yang, W., et al. 2008. CARPs enhance p53 turnover by degrading 14-3-3σ and stabilizing MDM2. Cell Cycle 7: 670-682.
4. Kim, J.H., et al. 2008. CCAR1, a key regulator of mediator complex recruitment to nuclear receptor transcription complexes. Mol. Cell 31: 510-519.
5. Kolobova, E., et al. 2009. Microtubule-dependent association of AKAP350A and CCAR1 with RNA stress granules. Exp. Cell Res. 315: 542-555.
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CHROMOSOMAL LOCATION

Genetic locus: CCAR1 (human) mapping to 10q21.3.

PRODUCT

CARP-1 siRNA (h) is a pool of 2 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 CARP-1 shRNA Plasmid (h): sc-77153-SH and CARP-1 shRNA (h) Lentiviral Particles: sc-77153-V as alternate gene silencing products.

For independent verification of CARP-1 (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-77153A and sc-77153B.

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

CARP-1 siRNA (h) is recommended for the inhibition of CARP-1 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

CARP-1 (E-4): sc-515629 is recommended as a control antibody for monitoring of CARP-1 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 CARP-1 gene expression knockdown using RT-PCR Primer: CARP-1 (h)-PR: sc-77153-PR (20 µl, 330 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.