SANTA CRUZ BIOTECHNOLOGY, INC.

WIPI-1 siRNA (m): sc-72211

BACKGROUND

WIPI-1 (WD repeat domain, phosphoinositide interacting-1), also known as WIPI1, ATG18 or WIPI49, is a 446 amino acid protein that localizes to cytoplasmic vesicles, endosomes, Clathrin-coated vesicles and the *trans*-Golgi network. Ubiquitously expressed with highest expression in heart, testis, placenta, pancreas and skeletal muscle, WIPI-1 is thought to play a role in autophagy and may regulate protein trafficking in certain recycling pathways. In addition, WIPI-1 interacts with androgen and estrogen receptors (ARs and ERs, respectively) and, through this interaction, may modify receptor function. WIPI-1 contains three WD repeats and has a 7-bladed propeller structure with a conserved motif that facilitates its interaction with other proteins. WIPI-1 is expressed as two isoforms, designated α and β, and its expression is upregulated in a variety of tumors, suggesting a role in carcinogenesis.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609224. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Proikas-Cezanne, T., et al. 2004. WIPI-1α (WIPI49), a member of the novel 7-bladed WIPI protein family, is aberrantly expressed in human cancer and is linked to starvation-induced autophagy. Oncogene 23: 9314-9325.
3. Jeffries, T.R., et al. 2004. PtdIns-specific MPR pathway association of a novel WD40 repeat protein, WIPI49. Mol. Biol. Cell 15: 2652-2663.
4. Wojnarowicz, P.M., et al. 2007. Construction of a chromosome 17 transcriptome in serous ovarian cancer identifies differentially expressed genes. Int. J. Gynecol. Cancer 18: 963-975.
5. Proikas-Cezanne, T., et al. 2007. Human WIPI-1 puncta-formation: a novel assay to assess mammalian autophagy. FEBS Lett. 581: 3396-3404.
6. Seelan, R.S., et al. 2008. Deciphering the lithium transcriptome: micro-array profiling of lithium-modulated gene expression in human neuronal cells. Neuroscience 151: 1184-1197.

CHROMOSOMAL LOCATION

Genetic locus: Wipi1 (mouse) mapping to 11 E1.

PRODUCT

WIPI-1 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 WIPI-1 shRNA Plasmid (m): sc-72211-SH and WIPI-1 shRNA (m) Lentiviral Particles: sc-72211-V as alternate gene silencing products.

For independent verification of WIPI-1 (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-72211A, sc-72211B and sc-72211C.

RESEARCH USE

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

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

WIPI-1 siRNA (m) is recommended for the inhibition of WIPI-1 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

WIPI-1 (F-6): sc-376205 is recommended as a control antibody for monitoring of WIPI-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 WIPI-1 gene expression knockdown using RT-PCR Primer: WIPI-1 (m)-PR: sc-72211-PR (20 µl, 500 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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