

WIPI-2 siRNA (m): sc-72213

BACKGROUND

Phosphatidylinositol is a negatively charged phospholipid that is found in the cellular membrane. When phosphorylated, phosphatidylinositol is known as phosphoinositide. Phosphoinositide is important in signal transduction, lipid signaling, and membrane trafficking. WIPI-2 (WD repeat domain phosphoinositide-interacting protein 2), also known as WIPI49-like protein 2, is a 454 amino acid protein that is highly expressed in the heart, skeletal muscle and pancreas. WD40 family members function to regulate assembly of multiprotein complexes using a propeller platform for reversible interactions. WIPI-2 specifically has a seven-bladed propeller and a motif for interaction with phospholipids. Expression of WIPI-2 is downregulated in pancreatic and kidney tumors. WIPI-2 is encoded by a gene that maps to human chromosome 7 which houses over 1,000 genes and comprises nearly 5% of the human genome.

REFERENCES

1. Hillier, L.W., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
2. Proikas-Cezanne, T., et al. 2004. WIPI-1 α (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. Pattingre, S. and Levine, B. 2006. Bcl-2 inhibition of autophagy: a new route to cancer? *Cancer Res.* 66: 2885-2888.
4. Proikas-Cezanne, T., et al 2007. Human WIPI-1 puncta-formation: a novel assay to assess mammalian autophagy. *FEBS Lett.* 581: 3396-3404.

CHROMOSOMAL LOCATION

Genetic locus: *Wipi2* (mouse) mapping to 5 G2.

PRODUCT

WIPI-2 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 WIPI-2 shRNA Plasmid (m): sc-72213-SH and WIPI-2 shRNA (m) Lentiviral Particles: sc-72213-V as alternate gene silencing products.

For independent verification of WIPI-2 (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-72213A, sc-72213B and sc-72213C.

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

WIPI-2 siRNA (m) is recommended for the inhibition of WIPI-2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor WIPI-2 gene expression knockdown using RT-PCR Primer: WIPI-2 (m)-PR: sc-72213-PR (20 μ l, 570 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.

PROTOCOLS

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