

SH3BP4 siRNA (h): sc-94846

BACKGROUND

SH3BP4 (SH3-domain binding protein 4), also known as TTP or BOG25, is a 963 amino acid protein that localizes to the nucleus and is ubiquitously expressed with higher expression in pancreas. SH3BP4 exists as a homodimer or homooligomer and consists of three Asn-Pro-Phe (NPF) motifs, an SH3 domain, a PXXP motif, a bipartite nuclear targeting signal and a tyrosine phosphorylation site. SH3BP4 associates with endocytic proteins, including clathrin and dynamin and may also be involved in intracellular sorting as well as the cell cycle. SH3BP4 is encoded by a gene located on human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Ijdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Dunlevy, J.R., et al. 1999. Cloning, chromosomal localization, and characterization of cDNA from a novel gene, SH3BP4, expressed by human corneal fibroblasts. *Genomics* 62: 519-524.
3. Khanobdee, K., et al. 2004. Nuclear and plasma membrane localization of SH3BP4 in retinal pigment epithelial cells. *Mol. Vis.* 10: 933-942.
4. Tosoni, D., et al. 2005. TTP specifically regulates the internalization of the transferrin receptor. *Cell* 123: 875-888.
5. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
6. Stein, U., Dahlmann and M., Walther, W. 2010. MACC1-more than metastasis? Facts and predictions about a novel gene. *J. Mol. Med.* 88: 11-18.

CHROMOSOMAL LOCATION

Genetic locus: SH3BP4 (human) mapping to 2q37.2.

PRODUCT

SH3BP4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SH3BP4 shRNA Plasmid (h): sc-94846-SH and SH3BP4 shRNA (h) Lentiviral Particles: sc-94846-V as alternate gene silencing products.

For independent verification of SH3BP4 (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-94846A, sc-94846B and sc-94846C.

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 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

SH3BP4 siRNA (h) is recommended for the inhibition of SH3BP4 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 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

SH3BP4 (A-6): sc-393730 is recommended as a control antibody for monitoring of SH3BP4 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 SH3BP4 gene expression knockdown using RT-PCR Primer: SH3BP4 (h)-PR: sc-94846-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.