

SCAMP2 siRNA (h): sc-41292

BACKGROUND

Secretory carrier membrane proteins (SCAMPs) are components of the post-Golgi membranes and are involved in endocytosis, vesicle recycling and membrane trafficking. The structural features of SCAMPs include multiple N-terminal NPF repeats and four highly conserved transmembrane regions. These NPF repeats frequently interact with EH domain proteins and aid in the budding of transport vesicles from the plasma membrane or the Golgi complex. Endocytic budding at the plasma membrane and vesicle budding at the *trans*-Golgi complex facilitates binding of SCAMP proteins to EH domain proteins. SCAMPs exist as distinct but related proteins that include SCAMP1, SCAMP2 and SCAMP3. Tyrosine phosphorylation by the epidermal growth factor receptor of SCAMP1 and SCAMP3 suggests that SCAMPs are regulated by phosphorylation. Although SCAMPs are ubiquitously expressed throughout all tissue, in neural tissue the synaptic vesicles express a particularly high concentration of SCAMP1.

REFERENCES

1. Brand, S.H., et al. 1991. Secretory carrier membrane proteins 31-35 define a common protein composition among secretory carrier membranes. *J. Biol. Chem.* 266: 18949-18957.
2. Brand, S.H., et al. 1993. SCAMP 37, a new marker within the general cell surface recycling system. *EMBO J.* 12: 3753-3761.
3. Laurie, S.M., et al. 1993. The glucose transporter GluT4 and secretory carrier membrane proteins (SCAMPs) colocalize in rat adipocytes and partially segregate during Insulin stimulation. *J. Biol. Chem.* 268: 19110-19117.

CHROMOSOMAL LOCATION

Genetic locus: SCAMP2 (human) mapping to 15q24.1.

PRODUCT

SCAMP2 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 SCAMP2 shRNA Plasmid (h): sc-41292-SH and SCAMP2 shRNA (h) Lentiviral Particles: sc-41292-V as alternate gene silencing products.

For independent verification of SCAMP2 (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-41292A, sc-41292B and sc-41292C.

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

SCAMP2 siRNA (h) is recommended for the inhibition of SCAMP2 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

SCAMP2 (8C10): sc-58286 is recommended as a control antibody for monitoring of SCAMP2 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 SCAMP2 gene expression knockdown using RT-PCR Primer: SCAMP2 (h)-PR: sc-41292-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Park, M., et al. 2009. Enterostatin alters protein trafficking to inhibit Insulin secretion in β -TC6 cells. *Peptides* 30: 1866-1873.

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.