

COPZ1 siRNA (h): sc-41202

BACKGROUND

Membrane and vesicular trafficking in the early secretory pathway are mediated by non-Clathrin COP (coat protein) I-coated vesicles. COPI-coated vesicles mediate retrograde transport from the Golgi back to the ER and intra-Golgi transport. The cytosolic precursor of the COPI coat, the heptameric coatomer complex, is composed of two subcomplexes. The first consists of the COPB, COPG, COPD and COPZ subunits (also known as β -, γ -, δ - and ζ -COP, respectively), which are distantly homologous to AP Clathrin adaptor subunits. The second consists of the COPA, β' -COP and COPE subunits (also known as α -COP, COPP and ϵ -COP, respectively).

REFERENCES

1. Lowe, M., et al. 1995. *In vitro* assembly and disassembly of coat-omer. J. Biol. Chem. 270: 31364-31371.
2. Cosson, P., et al. 1996. δ - and ζ -COP, two coatomer subunits homologous to Clathrin-associated proteins, are involved in ER retrieval. EMBO J. 15: 1792-1798.
3. Faulstich, D., et al. 1996. Architecture of coatomer: molecular characterization of δ -COP and protein interactions within the complex. J. Cell Biol. 135: 53-61.
4. Harter, C., et al. 1998. A single binding site for dilysine retrieval motifs and p23 within the γ subunit of coatomer. Proc. Natl. Acad. Sci. USA 95: 11649-11654.
5. Schroder-Kohne, S., et al. 1998. α -COP can discriminate between distinct, functional di-lysine signals *in vitro* and regulates access into retrograde transport. J. Cell Sci. 111: 3459-3470.
6. Kimata, Y., et al. 2000. Impaired proteasome function rescues thermosensitivity of yeast cells lacking the coatomer subunit ϵ -COP. J. Biol. Chem. 275: 10655-10660.
7. Watson, P.J., et al. 2004. γ -COP appendage domain—structure and function. Traffic 5: 79-88.

CHROMOSOMAL LOCATION

Genetic locus: COPZ1 (human) mapping to 12q13.13.

PRODUCT

COPZ1 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 COPZ1 shRNA Plasmid (h): sc-41202-SH and COPZ1 shRNA (h) Lentiviral Particles: sc-41202-V as alternate gene silencing products.

For independent verification of COPZ1 (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-41202A, sc-41202B and sc-41202C.

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

COPZ1 siRNA (h) is recommended for the inhibition of COPZ1 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

COPZ1 (B-12): sc-398081 is recommended as a control antibody for monitoring of COPZ1 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 COPZ1 gene expression knockdown using RT-PCR Primer: COPZ1 (h)-PR: sc-41202-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.