SANTA CRUZ BIOTECHNOLOGY, INC.

COPD siRNA (m): sc-142502

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 dissembly of coatomer. J. Biol. Chem. 270: 31364-31371.
2. 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.
3. Tunnacliffe, A., et al. 1996. The coatomer protein δ-COP, encoded by the archain gene, is conserved across diverse eukaryotes. Mamm. Genome 7: 784-786.
4. 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.
5. 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.
6. Chaudhary, A., et al. 1998. Specific interaction of Golgi coatomer protein α-COP with phosphatidylinositol 3,4,5-trisphosphate. J. Biol. Chem. 273: 8344-8350.
7. Futatsumori, M., et al. 2000. Identification and characterization of novel isoforms of COP I subunits. J. Biochem. 128: 793-801.
8. Eugster, A., et al. 2004. The α- and β'-COP WD40 domains mediate cargo-selective interactions with distinct di-lysine motifs. Mol. Biol. Cell 15: 1011-1023.

CHROMOSOMAL LOCATION

Genetic locus: Arcn1 (mouse) mapping to 9 A5.2.

PRODUCT

COPD siRNA (m) is a target-specific 19-25 nt siRNA 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 COPD shRNA Plasmid (m): sc-142502-SH and COPD shRNA (m) Lentiviral Particles: sc-142502-V as alternate gene silencing products.

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 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

COPD siRNA (m) is recommended for the inhibition of COPD 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

COPD (E-12): sc-515549 is recommended as a control antibody for monitoring of COPD 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 COPD gene expression knockdown using RT-PCR Primer: COPD (m)-PR: sc-142502-PR (20 µl). 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.