SANTA CRUZ BIOTECHNOLOGY, INC.

β'-COP siRNA (m): sc-41201

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The Power to Question

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 COPZ1 subunits (also known as β-COP, γ-COP, δ-COP and ζ-1 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. Harter, C., et al. 1993. Yeast coatomer contains a subunit homologous to mammalian β'-COP. FEBS Lett. 332: 71-73.
2. Stenbeck, G., et al. 1993. β'-COP, a novel subunit of coatomer. EMBO J. 12: 2841-2845.
3. Lowe, M. and Kreis, T.E. 1995. *In vitro* assembly and dissembly of coatomer. J. Biol. Chem. 270: 31364-31371.
4. Csukai, M., et al. 1997. The coatomer protein β'-COP, a selective binding protein (RACK) for protein kinase Cε. J. Biol. Chem. 272: 29200-29206.
5. Harter, C. and Wieland, F.T. 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. Vollenweider, F., et al. 1998. Mistargeting of the lectin ERGIC-53 to the endoplasmic reticulum of HeLa cells impairs the secretion of a lysosomal enzyme. J. Cell Biol. 142: 377-389.
7. Tarsounas, M., et al. 1999. Identification of the mouse β'-COP Golgi component as a spermatocyte autoantigen in scleroderma and mapping of its gene Copb2 to mouse chromosome 9. Cytogenet. Cell Genet. 87: 201-204.
8. Asada, M., et al. 2004. Afadin- and α-actinin-binding protein ADIP directly binds β'-COP, a subunit of the coatomer complex. Biochem. Biophys. Res. Commun. 321: 350-354.

CHROMOSOMAL LOCATION

Genetic locus: Copb2 (mouse) mapping to 9 E3.3.

PRODUCT

β'-COP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see β'-COP shRNA Plasmid (m): sc-41201-SH and β'-COP shRNA (m) Lentiviral Particles: sc-41201-V as alternate gene silencing products.

For independent verification of β'-COP (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-41201A, sc-41201B and sc-41201C.

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

β'-COP siRNA (m) is recommended for the inhibition of β'-COP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor β'-COP gene expression knockdown using RT-PCR Primer: β'-COP (m)-PR: sc-41201-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.

PROTOCOLS

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