

β1-Adaptin siRNA (m): sc-141139

BACKGROUND

Adaptins are heterotetrameric subunits of adaptors, which are complexes involved in the formation of Clathrin-coated pits for vesicle-mediated endocytosis. Clathrin and its associated heterotetrameric protein complexes make up the main protein components of the coat surrounding the cytoplasmic face of coated vesicles. The Adaptin family, comprising α , β , β' and γ classes, is also responsible for the transport of ligand-receptor complexes from plasma membranes and the *trans*-Golgi network to lysosomes. β 1-Adaptin, also known as Ap1b1 (adaptor protein complex AP-1, β 1 subunit) or is a 934 amino acid widely expressed protein belonging to the adaptor complexes large subunit family. β 1-Adaptin is a subunit of Clathrin-associated adaptor protein complex 1 that plays a role in protein sorting in the late-Golgi/*trans*-Golgi network (TGN) and/or endosomes.

REFERENCES

1. Takatsu, H., et al. 1998. Identification and characterization of novel Clathrin adaptor-related proteins. *J. Biol. Chem.* 273: 24693-24700.
2. Shim, J., et al. 2000. Distinct and redundant functions of μ 1 medium chains of the AP-1 Clathrin-associated protein complex in the nematode *Caenorhabditis elegans*. *Mol. Biol. Cell* 11: 2743-2756.
3. Takatsu, H., et al. 2001. Similar subunit interactions contribute to assembly of Clathrin adaptor complexes and COPI complex: analysis using yeast three-hybrid system. *Biochem. Biophys. Res. Commun.* 284: 1083-1089.
4. Doray, B., et al. 2002. Cooperation of GGAs and AP-1 in packaging MPRs at the *trans*-Golgi network. *Science* 297: 1700-1703.
5. Nonaka, H., et al. 2004. Serial analysis of gene expression in sinusoidal endothelial cells from normal and injured mouse liver. *Biochem. Biophys. Res. Commun.* 324: 15-24.
6. Santambrogio, L., et al. 2005. Involvement of caspase-cleaved and intact adaptor protein 1 complex in endosomal remodeling in maturing dendritic cells. *Nat. Immunol.* 6: 1020-1028.
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CHROMOSOMAL LOCATION

Genetic locus: Ap1b1 (mouse) mapping to 11 A1.

PRODUCT

β 1-Adaptin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see β 1-Adaptin shRNA Plasmid (m): sc-141139-SH and β 1-Adaptin shRNA (m) Lentiviral Particles: sc-141139-V as alternate gene silencing products.

For independent verification of β 1-Adaptin (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-141139A, sc-141139B and sc-141139C.

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

β 1-Adaptin siRNA (m) is recommended for the inhibition of β 1-Adaptin 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor β 1-Adaptin gene expression knockdown using RT-PCR Primer: β 1-Adaptin (m)-PR: sc-141139-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.

PROTOCOLS

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