

γ 2-Adaptin siRNA (m): sc-108586

BACKGROUND

Clathrin-coated pits and vesicles are assembled for receptor-mediated endocytosis through interaction with clathrin associated protein complexes. Vesicle transport is mediated from the *trans*-Golgi network by the adaptor complex AP-1 and from the plasma membrane by the adaptor complex AP-2. The AP-1 and AP-2 adaptor protein complexes consist of clathrin binding adaptin proteins (γ and β 1 for AP-1, α and β 2 for AP-2) and two smaller subunits known as AP50 and AP17. γ 2-Adaptin, also known as AP-1 complex subunit γ -like 2, is a member of the AP-1 adaptor complex that localizes to both the Golgi and to perinuclear vesicular structures. Expressed ubiquitously, γ 2-Adaptin is thought to play a role in protein sorting within endosomes and may be involved in maturation of the hepatitis B virus (Hep B). Multiple isoforms of γ 2-Adaptin exist due to alternative splicing events.

REFERENCES

- Kirchhausen, T., et al. 1989. Structural and functional division into two domains of the large (100- to 115-kDa) chains of the clathrin-associated protein complex AP-2. *Proc. Natl. Acad. Sci. USA* 86: 2612-2616.
- Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100-kD coated vesicle proteins (α -Adaptins). *J. Cell Biol.* 108: 833-842.
- Robinson, M.S. 1990. Cloning and expression of γ -Adaptin, a component of clathrin-coated vesicles associated with the Golgi apparatus. *J. Cell Biol.* 111: 2319-2326.
- Ponnambalam, S., et al. 1990. Conservation and diversity in families of coated vesicle adaptins. *J. Biol. Chem.* 265: 4814-4820.
- Lewin, D.A., et al. 1998. Cloning, expression, and localization of a novel γ -Adaptin-like molecule. *FEBS Lett.* 435: 263-268.
- Wyss, S., et al. 2001. The highly conserved C-terminal dileucine motif in the cytosolic domain of the human immunodeficiency virus type 1 envelope glycoprotein is critical for its association with the AP-1 clathrin adaptor [correction of adapter]. *J. Virol.* 75: 2982-2992.
- Hartmann-Stühler, C., et al. 2001. Hepatitis B virus large envelope protein interacts with γ 2-Adaptin, a clathrin adaptor-related protein. *J. Virol.* 75: 5343-5351.
- Rost, M., et al. 2006. γ -Adaptin, a novel ubiquitin-interacting adaptor, and Nedd4 ubiquitin ligase control hepatitis B virus maturation. *J. Biol. Chem.* 281: 29297-29308.

CHROMOSOMAL LOCATION

Genetic locus: Ap1g2 (mouse) mapping to 14 C3.

PRODUCT

γ 2-Adaptin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see γ 2-Adaptin shRNA Plasmid (m): sc-108586-SH and γ 2-Adaptin shRNA (m) Lentiviral Particles: sc-108586-V as alternate gene silencing 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

γ 2-Adaptin siRNA (m) is recommended for the inhibition of γ 2-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 γ 2-Adaptin gene expression knockdown using RT-PCR Primer: γ 2-Adaptin (m)-PR: sc-108586-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.