SANTA CRUZ BIOTECHNOLOGY, INC.

Ap1σ2 siRNA (m): sc-141141

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. Ap1σ2 (adaptor-related protein complex 1, σ 2 subunit), also known as Clathrin assembly protein complex 1 σ-1B small chain or Golgi adaptor HA1/AP1 adaptin σ-1B subunit, is a widely expressed 160 amino acid protein that belongs to the adaptor complexes small subunit family. The AP-1 complex assists with protein sorting in the late-Golgi/*trans*-Golgi network (TGN), mediates clathrin recruitment to membranes and recognizes sorting signals inside cytosolic tails of transmembrane cargo molecules. Ap1σ2 is encoded by a gene located on mouse chromosome X F5.

REFERENCES

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2. Saillour, Y., et al. 2007. Mutations in the AP1S2 gene encoding the σ 2 subunit of the adaptor protein 1 complex are associated with syndromic X-linked mental retardation with hydrocephalus and calcifications in basal ganglia. J. Med. Genet. 44: 739-744.
3. Borck, G., et al. 2008. Clinical, cellular, and neuropathological consequences of AP1S2 mutations: further delineation of a recognizable X-linked mental retardation syndrome. Hum. Mutat. 29: 966-974.
4. Thorson, L., et al. 2010. Clinical and molecular characterization of overlapping interstitial Xp21-p22 duplications in two unrelated individuals. Am. J. Med. Genet. A 152A: 904-915.
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6. Maekawa, R., et al. 2011. Disease-dependent differently methylated regions (D-DMRs) of DNA are enriched on the X chromosome in uterine leiomyoma. J. Reprod. Dev. 57: 604-612.
7. Ballarati, L., et al. 2012. Deletion of the AP1S2 gene in a child with psychomotor delay and hypotonia. Eur. J. Med. Genet. 55: 124-127.
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CHROMOSOMAL LOCATION

Genetic locus: Ap1s2 (mouse) mapping to X F5.

PROTOCOLS

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

PRODUCT

Ap1σ2 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 Ap1σ2 shRNA Plasmid (m): sc-141141-SH and Ap1σ2 shRNA (m) Lentiviral Particles: sc-141141-V as alternate gene silencing products.

For independent verification of Ap1σ2 (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-141141A, sc-141141B and sc-141141C.

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

Ap1σ2 siRNA (m) is recommended for the inhibition of Ap1σ2 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 Ap1σ2 gene expression knockdown using RT-PCR Primer: Ap1σ2 (m)-PR: sc-141141-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.