SANTA CRUZ BIOTECHNOLOGY, INC.

AP1S3 siRNA (m): sc-141142

BACKGROUND

AP1S3 (adaptor-related protein complex 1, σ3 subunit), also known as σ1C-Adaptin, Golgi adaptor HA1/AP1 adaptin σ-1C subunit or clathrin assembly protein complex 1 σ-1C small chain, is a 154 amino acid protein that belongs to the adaptor complexes small subunit family and exists as three alternatively spliced isoforms. AP1S3 makes up the subunit of the clathrin-associated adaptor protein complex 1 (AP-1), a heterotetramer composed of two large adaptins (γ1-Adaptin and β1-Adaptin), one medium adaptin (AP-1μ1 or AP-1μ2) and one small adaptin (AP1S1 or AP1S2 or AP1S3). 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. Ubiquitously expressed, AP1S3 is encoded by a gene that maps to human chromosome 2q36.1.

REFERENCES

1. Loor, J.J., et al. 2005. Temporal gene expression profiling of liver from periparturient dairy cows reveals complex adaptive mechanisms in hepatic function. Physiol. Genomics 23: 217-226.
2. Wyrwicz, L.S., et al. 2007. A common *cis*-element in promoters of protein synthesis and cell cycle genes. Acta Biochim. Pol. 54: 89-98.
3. Bloethner, S., et al. 2007. Differential gene expression in melanocytic nevi with the V600E BRAF mutation. Genes Chromosomes Cancer 46: 1019-1027.
4. 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.
5. Wang, H. 2008. Comparative analysis of period genes in teleost fish genomes. J. Mol. Evol. 67: 29-40.
6. Wang, L., et al. 2009. Genome-wide transcriptional profiling reveals microRNA-correlated genes and biological processes in human lymphoblastoid cell lines. PLoS ONE 4: e5878.
7. Jiang, X., et al. 2010. Identification of novel epithelial ovarian cancer biomarkers by cross-laboratory microarray analysis. J. Huazhong Univ. Sci. Technolog. Med. Sci. 30: 354-359.

CHROMOSOMAL LOCATION

Genetic locus: Ap1s3 (mouse) mapping to 1 C4.

PRODUCT

AP1S3 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 AP1S3 shRNA Plasmid (m): sc-141142-SH and AP1S3 shRNA (m) Lentiviral Particles: sc-141142-V as alternate gene silencing products.

For independent verification of AP1S3 (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-141142A, sc-141142B and sc-141142C.

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

AP1S3 siRNA (m) is recommended for the inhibition of AP1S3 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 AP1S3 gene expression knockdown using RT-PCR Primer: AP1S3 (m)-PR: sc-141142-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Comarița, I.K., et al. 2024. The siRNA-mediated knockdown of AP-1 restores the function of the pulmonary artery and the right ventricle by reducing perivascular and interstitial fibrosis and key molecular players in cardiopulmonary disease. J. Transl. Med. 22: 137.

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.