SANTA CRUZ BIOTECHNOLOGY, INC.

Atlastin-2 siRNA (h): sc-94368

BACKGROUND

Atlastin-2, also known as ATL2 (atlastin GTPase 2), ARL3IP2 or ARL6IP2 (ADP-ribosylation factor-like protein 6-interacting protein 2), is a 583 amino acid multi-pass membrane protein that belongs to the GBP family and the Atlastin subfamily. Atlastin-2 contains GTP-binding motifs in its N-terminal half and two transmembrane domains in its C-terminal half. Encoded by a gene that maps to human chromosome 2p22.2, Atlastin-2 exists as three alternatively spliced isoforms and is conserved in chimpanzee, canine, mouse, rat, zebrafish, fruit fly, mosquito and *Caenorhabditis elegans*. Expressed in peripheral tissues and localizing to endoplasmic reticulum membrane, Atlastin-2 participates in tethering GTPase membranes during *trans*-homooligomer formation and mediating homotypic fusion of endoplasmic reticulum membranes. Atlastin-2 also interacts with REEP5 and Rtn-3, and plays a role in endoplasmic reticulum tubular network biogenesis.

REFERENCES

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2. Rismanchi, N., et al. 2008. Atlastin GTPases are required for Golgi apparatus and ER morphogenesis. Hum. Mol. Genet. 17: 1591-1604.
3. Albin, R.L., et al. 2008. Normal dopaminergic nigrostriatal innervation in SPG3A hereditary spastic paraplegia. J. Neurogenet. 22: 289-294.
4. Hu, J., et al. 2009. A class of dynamin-like GTPases involved in the generation of the tubular ER network. Cell 138: 549-561.
5. Farhan, H., et al. 2009. Membrane biogenesis: networking at the ER with atlastin. Curr. Biol. 19: R906-R908.
6. Renvoisé, B., et al. 2010. Emerging themes of ER organization in the development and maintenance of axons. Curr. Opin. Neurobiol. 20: 531-537.
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CHROMOSOMAL LOCATION

Genetic locus: ATL2 (human) mapping to 2p22.2.

PRODUCT

Atlastin-2 siRNA (h) 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 Atlastin-2 shRNA Plasmid (h): sc-94368-SH and Atlastin-2 shRNA (h) Lentiviral Particles: sc-94368-V as alternate gene silencing products.

For independent verification of Atlastin-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94368A, sc-94368B and sc-94368C.

PROTOCOLS

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

Atlastin-2 siRNA (h) is recommended for the inhibition of Atlastin-2 expression in human 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 Atlastin-2 gene expression knockdown using RT-PCR Primer: Atlastin-2 (h)-PR: sc-94368-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.