



Ahsa2 siRNA (m): sc-140919

BACKGROUND

AHSA2 (AHA1, activator of heat shock 90 kDa protein ATPase homolog 2), also known as Hch1, is a 299 amino acid protein belonging to the AHA1 family. Encoded by a gene that maps to human chromosome 2p15, AHSA2 exists as three alternatively spliced isoforms and participates in chaperone binding and ATPase activator activity. Highly conserved from yeast to man, AHSA2 is necessary for cell viability during less than ideal growth conditions, such as low HSP 90 levels. AHSA2 acts as a co-chaperone that stimulates ATPase function for HSP 90, a vital and plentiful stress protein in eukaryotic cytosol. Microdeletion Syndrome 2p15-p16.1, which includes AHSA2, is characterized by intellectual disability, prenatal and postnatal growth retardation, microcephaly, high and broad nasal root, long eyelashes and camptodactyly.

REFERENCES

1. Panaretou, B., et al. 2002. Activation of the ATPase activity of HSP 90 by the stress-regulated cochaperone AHA1. *Mol. Cell* 10: 1307-1318.
2. Lotz, G.P., et al. 2003. AHA1 binds to the middle domain of HSP 90, contributes to client protein activation, and stimulates the ATPase activity of the molecular chaperone. *J. Biol. Chem.* 278: 17228-17235.
3. Meyer, P., et al. 2004. Structural basis for recruitment of the ATPase activator AHA1 to the HSP 90 chaperone machinery. *EMBO J.* 23: 511-519.
4. Antoshechkin, A., et al. 2007. Analysis of effects of the herbal preparation Circulat on gene expression levels in cultured human fibroblasts. *Phytother Res.* 21: 777-789.
5. de Leeuw, N., et al. 2008. A newly recognised microdeletion syndrome involving 2p15p16.1: narrowing down the critical region by adding another patient detected by genome wide tiling path array comparative genomic hybridisation analysis. *J. Med. Genet.* 45: 122-124.
6. Stenson, P.D., et al. 2008. Human gene mutation database: towards a comprehensive central mutation database. *J. Med. Genet.* 45: 124-126.
7. Xu, B., et al. 2009. Elucidating the genetic architecture of familial schizophrenia using rare copy number variant and linkage scans. *Proc. Natl. Acad. Sci. USA* 106: 16746-16751.
8. Felix, T.M., et al. 2010. Further characterization of microdeletion syndrome involving 2p15-p16.1. *Am. J. Med. Genet. A* 152A: 2604-2608.

CHROMOSOMAL LOCATION

Genetic locus: Ahsa2 (mouse) mapping to 11 A3.2.

PRODUCT

Ahsa2 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 Ahsa2 shRNA Plasmid (m): sc-140919-SH and Ahsa2 shRNA (m) Lentiviral Particles: sc-140919-V as alternate gene silencing products.

For independent verification of Ahsa2 (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-140919A, sc-140919B and sc-140919C.

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

Ahsa2 siRNA (m) is recommended for the inhibition of Ahsa2 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 Ahsa2 gene expression knockdown using RT-PCR Primer: Ahsa2 (m)-PR: sc-140919-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.