

Aladin siRNA (m): sc-45245

BACKGROUND

Aladin (Adracalin) belongs to a family of WD repeat-containing proteins. These proteins have a wide variety of functions, including signal transduction regulation, RNA processing and transcription. Aladin plays a role in peripheral and central nervous system development. It is widely expressed, with highest expression in pituitary gland, corpus callosum, cerebellum, adrenal gland and gastrointestinal structures. Defects in Aladin cause the autosomal recessive disorder achalasia-addisonianism-alacrima (triple A) syndrome. Triple A syndrome is characterized by achalasia, alacrima and adrenocorticotropin-resistant adrenal insufficiency. Robust expression in neural systems associated with cognitive, motor and sensory functions is consistent with the myriad of symptoms experienced by patients with triple A syndrome.

REFERENCES

1. Tullio-Pelet, A., et al. 2000. Mutant WD repeat protein in triple A syndrome. *Nat. Genet.* 26: 332-335.
2. Katsumata, N., et al. 2002. Analysis of the AAAS gene in a Japanese patient with triple A syndrome. *Endocr. J.* 49: 49-53.
3. Houlden, H., et al. 2002. Clinical and genetic characterization of families with triple A (Allgrove) syndrome. *Brain* 125: 2681-2690.
4. Cronshaw, J.M., et al. 2003. The nuclear pore-complex protein, Aladin, is mislocalized in triple A syndrome. *Proc. Natl. Acad. Sci. USA* 100: 5823-5827.
5. Salehi, M., et al. 2005. The diagnosis of adrenal-insufficiency in a patient with Allgrove syndrome and a novel mutation in the Aladin gene. *Metabolism* 54: 200-205.
6. Storr, H.L., et al. 2005. Identification of the sites of expression of triple A syndrome mRNA in the rat using *in situ* hybridisation. *Neuroscience* 131: 113-123.

CHROMOSOMAL LOCATION

Genetic locus: Aaas (mouse) mapping to 15 F3.

PRODUCT

Aladin 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 Aladin shRNA Plasmid (m): sc-45245-SH and Aladin shRNA (m) Lentiviral Particles: sc-45245-V as alternate gene silencing products.

For independent verification of Aladin (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-45245A, sc-45245B and sc-45245C.

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 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

Aladin siRNA (m) is recommended for the inhibition of Aladin 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.

GENE EXPRESSION MONITORING

Aladin (B-11): sc-374073 is recommended as a control antibody for monitoring of Aladin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Aladin gene expression knockdown using RT-PCR Primer: Aladin (m)-PR: sc-45245-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.