SANTA CRUZ BIOTECHNOLOGY, INC.

Arkadia 2 siRNA (m): sc-141234

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Arkadia 2, also known as Akd2, is a 245 amino acid protein that becomes phosphorylated following post-translational DNA damage. Arkadia 2 is the mouse ortholog of human ARKL1, which is expressed as two alternatively spliced isoforms that are encoded by a gene mapping to chromosome 18q21.1. Human chromosome 18 houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Carstea, E.D., et al. 1993. Linkage of Niemann-Pick disease type C to human chromosome 18. Proc. Natl. Acad. Sci. USA 90: 2002-2004.
2. Petek, E., et al. 2003. Characterisation of a 19-year-old "long-term survivor" with Edwards syndrome. Genet. Couns. 14: 239-244.
3. Raghavan, S.C., et al. 2004. A non-B-DNA structure at the Bcl-2 major breakpoint region is cleaved by the RAG complex. Nature 428: 88-93.
4. Grosso, S., et al. 2005. Chromosome 18 aberrations and epilepsy: a review. Am. J. Med. Genet. A 134A: 88-94.
5. Nusbaum, C., et al. 2005. DNA sequence and analysis of human chromosome 18. Nature 437: 551-555.
6. Pickard, B.S., et al. 2005. Candidate psychiatric illness genes identified in patients with pericentric inversions of chromosome 18. Psychiatr. Genet. 15: 37-44.
7. Aurizi, C., et al. 2007. Heterogeneity of mutations in the ferrochelatase gene in Italian patients with erythropoietic protoporphyria. Mol. Genet. Metab. 90: 402-407.
8. Broderick, P., et al. 2007. A genome-wide association study shows that common alleles of Smad7 influence colorectal cancer risk. Nat. Genet. 39: 1315-1317.
9. Kamal, A.H. and Prakash, U.B. 2007. Hereditary hemorrhagic telangiectasia. Mayo Clin. Proc. 82: 1364.

CHROMOSOMAL LOCATION

Genetic locus: 8030462N17Rik (mouse) mapping to 18 E3.

PRODUCT

Arkadia 2 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 Arkadia 2 shRNA Plasmid (m): sc-141234-SH and Arkadia 2 shRNA (m) Lentiviral Particles: sc-141234-V as alternate gene silencing products.

For independent verification of Arkadia 2 (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-141234A, sc-141234B and sc-141234C.

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

Arkadia 2 siRNA (m) is recommended for the inhibition of Arkadia 2 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 Arkadia 2 gene expression knockdown using RT-PCR Primer: Arkadia 2 (m)-PR: sc-141234-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.

PROTOCOLS

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