

# ARKL1 siRNA (h): sc-72536

## BACKGROUND

ARKL1, also known as C18orf25, is a 403 amino acid protein that belongs to the ubiquitin ligase family and may be involved in the pathogenesis of psychiatric illnesses, including schizophrenia and bipolar affective disorder. The mouse and rat orthologs of ARKL1 are known as Arkadia 2. Human ARKL1 is expressed as two alternatively spliced isoforms that are encoded by a gene that maps to chromosome 18, which 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

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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.

## CHROMOSOMAL LOCATION

Genetic locus: C18orf25 (human) mapping to 18q21.1.

## PRODUCT

ARKL1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ARKL1 shRNA Plasmid (h): sc-72536-SH and ARKL1 shRNA (h) Lentiviral Particles: sc-72536-V as alternate gene silencing products.

For independent verification of ARKL1 (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-72536A, sc-72536B and sc-72536C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ARKL1 siRNA (h) is recommended for the inhibition of ARKL1 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  $\mu$ M in 66  $\mu$ 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 ARKL1 gene expression knockdown using RT-PCR Primer: ARKL1 (h)-PR: sc-72536-PR (20  $\mu$ 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.