

# ARL10 siRNA (h): sc-91678

## BACKGROUND

ADP-ribosylation factors (ARFs) are highly conserved guanine nucleotide binding proteins that enhance the ADP-ribosyltransferase activity of Cholera Toxin. ARFs are important in eukaryotic vesicular trafficking pathways and they play an essential role in the activation of phospholipase D (PC-PLD). ARL10 (ADP-ribosylation factor-like protein 10), also known as ARL10A, is a 244 amino acid protein that belongs to the ARF family of ADP-ribosylation factors. The gene that encodes ARL10 maps to human chromosome 5, which contains about 6% of human genomic DNA. Chromosome 5 is associated with Cockayne syndrome through the ERCC8 gene and with familial adenomatous polyposis through the adenomatous polyposis coli (APC) tumor suppressor gene. Treacher Collins syndrome is also chromosome 5 associated and is caused by insertions or deletions within the TCOF1 gene. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome. Deletion of 5q or chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

## REFERENCES

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2. Pasqualato, S., et al. 2002. Arf, Arl, Arp and Sar proteins: a family of GTP-binding proteins with a structural device for 'front-back' communication. *EMBO Rep.* 3: 1035-1041.
3. Okai, T., et al. 2004. Novel small GTPase subfamily capable of associating with tubulin is required for chromosome segregation. *J. Cell Sci.* 117: 4705-4715.
4. Kahn, R.A., et al. 2005. Arf family GTPases: roles in membrane traffic and microtubule dynamics. *Biochem. Soc. Trans.* 33: 1269-1272.
5. Kahn, R.A., et al. 2006. Nomenclature for the human Arf family of GTP-binding proteins: ARF, ARL, and SAR proteins. *J. Cell Biol.* 172: 645-650.
6. South, S.T., et al. 2006. A new genomic mechanism leading to Cri-du-chat syndrome. *Am. J. Med. Genet. A* 140: 2714-2720.

## CHROMOSOMAL LOCATION

Genetic locus: ARL10 (human) mapping to 5q35.2.

## PRODUCT

ARL10 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 ARL10 shRNA Plasmid (h): sc-91678-SH and ARL10 shRNA (h) Lentiviral Particles: sc-91678-V as alternate gene silencing products.

For independent verification of ARL10 (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-91678A, sc-91678B and sc-91678C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

ARL10 siRNA (h) is recommended for the inhibition of ARL10 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 ARL10 gene expression knockdown using RT-PCR Primer: ARL10 (h)-PR: sc-91678-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.