

# ARL4D siRNA (h): sc-94138

## 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 activating phospholipase D. ARL4D (ADP-ribosylation factor-like 4D), also known as ARL6 or ARF4L, is a 201 amino acid nuclear protein that is a member of the ADP-ribosylation factor family of GTP-binding proteins. ARL4D may play a role in membrane-associated intracellular trafficking and may promote ARF6 activation and modulate Actin remodeling by regulating ARNO. It is suggested that mutations of ARL4D is associated with Bardet-Biedl syndrome.

## REFERENCES

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2. Katayama, T., et al. 1998. Expression of an ADP-ribosylation factor like gene, ARF4L, is induced after transient forebrain ischemia in the gerbil. *Brain Res. Mol. Brain Res.* 56: 66-75.
3. Lin, C.Y., et al. 2000. ARL4, an ARF-like protein that is developmentally regulated and localized to nuclei and nucleoli. *J. Biol. Chem.* 275: 37815-37823.
4. Nonaka, Y., et al. 2002. Recognition of ADP-ribosylation factor 4-like by HLA-A2-restricted and tumor-reactive cytotoxic T lymphocytes from patients with brain tumors. *Tissue Antigens* 60: 319-327.
5. Katayama, T., et al. 2004. Role of ARF4L in recycling between endosomes and the plasma membrane. *Cell. Mol. Neurobiol.* 24: 137-147.
6. Hofmann, I., et al. 2007. The Arl4 family of small G proteins can recruit the cytohesin Arf6 exchange factors to the plasma membrane. *Curr. Biol.* 17: 711-716.
7. Li, C.C., et al. 2007. ARL4D recruits cytohesin-2/ARNO to modulate actin remodeling. *Mol. Biol. Cell* 18: 4420-4437.
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## CHROMOSOMAL LOCATION

Genetic locus: ARL4D (human) mapping to 17q21.31.

## PRODUCT

ARL4D 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 ARL4D shRNA Plasmid (h): sc-94138-SH and ARL4D shRNA (h) Lentiviral Particles: sc-94138-V as alternate gene silencing products.

For independent verification of ARL4D (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-94138A, sc-94138B and sc-94138C.

## 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

ARL4D siRNA (h) is recommended for the inhibition of ARL4D 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.

## GENE EXPRESSION MONITORING

ARL4D (F-2): sc-271273 is recommended as a control antibody for monitoring of ARL4D 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARL4D gene expression knockdown using RT-PCR Primer: ARL4D (h)-PR: sc-94138-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.

## PROTOCOLS

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