

# ARL4D siRNA (m): sc-141243

## 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* (mouse) mapping to 11 D.

## PRODUCT

ARL4D siRNA (m) is a target-specific 19-25 nt siRNA 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 (m): sc-141243-SH and ARL4D shRNA (m) Lentiviral Particles: sc-141243-V as alternate gene silencing products.

## 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

ARL4D siRNA (m) is recommended for the inhibition of ARL4D 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  $\mu$ 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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® 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 (m)-PR: sc-141243-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.