

ARL8B siRNA (m): sc-141251

BACKGROUND

ADP-ribosylation factors (ARFs) are highly conserved guanine nucleotide binding proteins that enhance the ADP-ribosyltransferase activity of Cholera Toxin. ARF's are important in eukaryotic vesicular trafficking pathways and they play an essential role in the activation of phospholipase D (PC-PLD). ARL8B (ADP-ribosylation factor-like protein 8B), also known as ARL10C or GIE1, is a 186 amino acid protein that localizes to the late endosome membrane and belongs to the ARL family of ARF-like GTPase proteins. Expressed ubiquitously, ARL8A interacts with Tubulin and is thought to play a role in lysosome motility, as well as in chromosomal segregation. The gene encoding ARL8B maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

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3. Burd, C.G., et al. 2004. ARF-like GTPases: not so ARF-like after all. *Trends Cell Biol.* 14: 687-694.
4. Kahn, R.A., et al. 2005. ARF family GTPases: roles in membrane traffic and microtubule dynamics. *Biochem. Soc. Trans.* 33: 1269-1272.
5. Bagshaw, R.D., et al. 2006. The ARF-family protein, ARL8B, is involved in the spatial distribution of lysosomes. *Biochem. Biophys. Res. Commun.* 344: 1186-1191.
6. Haraguchi, T., et al. 2006. Expression of ADP-ribosylation factor-like protein 8B mRNA in the brain is down-regulated in mice fed a high-fat diet. *Biosci. Biotechnol. Biochem.* 70: 1798-1802.
7. 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.
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CHROMOSOMAL LOCATION

Genetic locus: ARL8b (mouse) mapping to 6 E2.

PRODUCT

ARL8B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ARL8B shRNA Plasmid (m): sc-141251-SH and ARL8B shRNA (m) Lentiviral Particles: sc-141251-V as alternate gene silencing products.

For independent verification of ARL8B (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-141251A, sc-141251B and sc-141251C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ARL8B siRNA (m) is recommended for the inhibition of ARL8B 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 μ M in 66 μ 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

ARL8A/B (H-8): sc-398635 is recommended as a control antibody for monitoring of ARL8B 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 ARL8B gene expression knockdown using RT-PCR Primer: ARL8B (m)-PR: sc-141251-PR (20 μ 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 for detailed protocols and support products.