

# Rab GDI $\alpha$ siRNA (m): sc-41839

## BACKGROUND

Rab proteins, a family of Ras-related small GTP-binding proteins, play a key role in regulating intracellular vesicle trafficking. Rab GDP dissociation inhibitor (Rab GDI or GDI2) forms a soluble complex with Rab proteins and thereby prevents the exchange of GDP for GTP. In mammals, there exist two major isoforms, Rab GDI  $\alpha$  (also known as XAP-4) and Rab GDI  $\beta$ . While the mammalian Rab GDI  $\beta$ -genes are ubiquitously expressed, the Rab GDI  $\alpha$  genes are predominantly brain-specific. Since it is expressed predominantly in neural and sensory tissues, Rab GDI  $\alpha$  may serve a specific function in neural signal transmission. The gene sequences for the Rab GDI proteins are extremely conserved in evolution, with substantial homology preserved across three eukaryotic kingdoms.

## REFERENCES

1. Nishimura, N., et al. 1994. Molecular cloning and characterization of two Rab GDI species from rat brain: brain-specific and ubiquitous types. *J. Biol. Chem.* 269: 14191-14198.
2. Nishimura, N., et al. 1995. Cloning of a brain-type isoform of human Rab GDI and its expression in human neuroblastoma cell lines and tumor specimens. *Cancer Res.* 55: 5445-5450.
3. Araki, K., et al. 1995. Purification and characterization of Rab GDI  $\beta$  from rat brain. *Biochem. Biophys. Res. Commun.* 211: 296-305.
4. Bachner, D., et al. 1995. Expression patterns of two human genes coding for different Rab GDP-dissociation inhibitors (GDIs), extremely conserved proteins involved in cellular transport. *Hum. Mol. Genet.* 4: 701-708.
5. Sedlacek, Z., et al. 1999. The amphioxus Rab GDP-dissociation inhibitor (GDI) gene is neural-specific: implications for the evolution of chordate Rab GDI genes. *Mol. Biol. Evol.* 16: 1231-1237.

## CHROMOSOMAL LOCATION

Genetic locus: Gdi1 (mouse) mapping to X A7.3.

## PRODUCT

Rab GDI  $\alpha$  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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rab GDI  $\alpha$  shRNA Plasmid (m): sc-41839-SH and Rab GDI  $\alpha$  shRNA (m) Lentiviral Particles: sc-41839-V as alternate gene silencing products.

For independent verification of Rab GDI  $\alpha$  (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-41839A, sc-41839B and sc-41839C.

## 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.

## 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

Rab GDI  $\alpha$  siRNA (m) is recommended for the inhibition of Rab GDI  $\alpha$  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

Rab GDI  $\alpha$  (C-7): sc-271846 is recommended as a control antibody for monitoring of Rab GDI  $\alpha$  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 Rab GDI  $\alpha$  gene expression knockdown using RT-PCR Primer: Rab GDI  $\alpha$  (m)-PR: sc-41839-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.