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Rab GDI β siRNA (m): sc-152656

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 α , also known as XAP-4, and Rab GDI β . While the mammalian Rab GDI β -genes are ubiquitously expressed, the Rab GDI α genes are predominantly brain-specific. Since it is expressed predominantly in neural and sensory tissues, Rab GDI α 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

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2. Shisheva, A., et al. 1994. Differential intracellular localizations of GDP dissociation inhibitor isoforms. Insulin-dependent redistribution of GDP dissociation inhibitor-2 in 3T3-L1 adipocytes. *J. Biol. Chem.* 269: 23865-23868.
3. 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.
4. Araki, K., et al. 1995. Purification and characterization of Rab GDI β from rat brain. *Biochem. Biophys. Res. Commun.* 211: 296-305.
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6. 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: Gdi2 (mouse) mapping to 13 A1.

PRODUCT

Rab GDI β 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 Rab GDI β shRNA Plasmid (m): sc-152656-SH and Rab GDI β shRNA (m) Lentiviral Particles: sc-152656-V as alternate gene silencing products.

For independent verification of Rab GDI β (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-152656A, sc-152656B and sc-152656C.

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

Rab GDI β siRNA (m) is recommended for the inhibition of Rab GDI β 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

Rab GDI β (D-2): sc-515143 is recommended as a control antibody for monitoring of Rab GDI β 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 Rab GDI β gene expression knockdown using RT-PCR Primer: Rab GDI β (m)-PR: sc-152656-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.