



Dexas1 siRNA (m): sc-41851

BACKGROUND

Dexas1 (RASD1; RAS, dexamethasone-induced 1) is a steroid hormone-dependent, Ras-related GTPase that influences cell morphology, growth and cell-extracellular matrix interactions. Dexas1 can regulate receptor-mediated $G_{\beta/\gamma}$ (heterotrimeric G protein) signaling. Dexas1 couples NMDA and light input to $G_{i/o}$ and ERK activation. Dexas2 (Rhes; Ras homolog enriched in striatum, RASD2; RAS, dexamethasone-induced 2, TEM2; tumor endothelial marker 2) is a GTPase that is abundant in the striatal region of the brain where it mediates signal cascades. Dexas2 (Rhes) mRNA levels are under the influence of dopamine and may play a role in determining normal dopamine receptor sensitivity. Dexas1 and Dexas2 define a sub-family of proteins within the Ras family, characterized by an extended variable domain in the carboxyl-terminal region.

REFERENCES

1. Fang, M., et al. 2000. Dexas1: a G protein specifically coupled to neuronal nitric oxide synthase via CAPON. *Neuron* 28: 183-193.
2. Graham, T.E., et al. 2002. Dexas1/AGS1 inhibits signal transduction from the G_i -coupled formyl peptide receptor to ERK 1/2 MAP kinases. *J. Biol. Chem.* 277: 10876-10882.
3. Graham, T.E., et al. 2004. Dexas1 inhibits adenylyl cyclase. *Biochem. Biophys. Res. Commun.* 316: 307-312.
4. Van Gelder, R.N. 2004. Resetting the Clock: Dexas1 defines a path. *Neuron* 43: 603-604.
5. Cheng, H.Y., et al. 2004. Dexas1 potentiates photic and suppresses non-photic responses of the circadian Clock. *Neuron* 43: 715-728.
6. Spano, D., et al. 2004. Rhes is involved in striatal function. *Mol. Cell. Biol.* 24: 5788-5796.
7. Vargiu, P., et al. 2004. The small GTP-binding protein, Rhes, regulates signal transduction from G protein-coupled receptors. *Oncogene* 23: 559-568.
8. Nguyen, C.H., et al. 2005. Dexas1 blocks receptor-mediated heterologous sensitization of adenylyl cyclase 1. *Biochem. Biophys. Res. Commun.* 332: 913-920.

CHROMOSOMAL LOCATION

Genetic locus: Rasd1 (mouse) mapping to 11 B1.3.

PRODUCT

Dexas1 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 Dexas1 shRNA Plasmid (m): sc-41851-SH and Dexas1 shRNA (m) Lentiviral Particles: sc-41851-V as alternate gene silencing products.

For independent verification of Dexas1 (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-41851A, sc-41851B and sc-41851C.

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

Dexas1 siRNA (m) is recommended for the inhibition of Dexas2 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

Dexas1/2 (C-11): sc-398988 is recommended as a control antibody for monitoring of Dexas1 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 Dexas1 gene expression knockdown using RT-PCR Primer: Dexas1 (m)-PR: sc-41851-PR (20 μ l, 570 bp). 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.