



Ral GPS1 siRNA (h): sc-92962

BACKGROUND

Ral GPS1 (Ral GEF with PH domain and SH3-binding motif 1), also known as RalGEF 2 (Ral guanine nucleotide exchange factor 2), is a 557 amino acid guanine nucleotide exchange factor for Ral A. Localized to cytoplasm, Ral GPS1 contains one PH domain, which associates with the cell membrane, and one Ras-GEF domain. Ral GPS1 may play a role in cytoskeletal organization as well as the stimulation of transcription in a Ras-independent manner. Ral GPS1 has been found to interact with the SH3 domains of SRC-1, NCK1, PLC γ 1 and GRB2. Ral GPS1 is expressed as six isoforms produced by alternative splicing events. Isoform 1 is expressed highly in testis and heart, while isoform 2 is found at high levels in kidney, colon, brain, small intestine, testis, uterus, thymus and skeletal muscle.

REFERENCES

1. Nagase, T., Ishikawa, K., Nakajima, D., Ohira, M., Seki, N., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
2. Rebhun, J.F., Chen, H. and Quilliam, L.A. 2000. Identification and characterization of a new family of guanine nucleotide exchange factors for the Ras-related GTPase Ral. J. Biol. Chem. 275: 13406-13410.
3. de Bruyn, K.M., de Rooij, J., Wolthuis, R.M., Rehmann, H., Wesenbeek, J., Cool, R.H., Wittinghofer, A.H. and Bos, J.L. 2000. RalGEF2, a pleckstrin homology domain containing guanine nucleotide exchange factor for Ral. J. Biol. Chem. 275: 29761-29766.
4. Humphray, S.J., Oliver, K., Hunt, A.R., Plumb, R.W., Loveland, J.E., Howe, K.L. and Andrews, T.D. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
5. Aitio, O., Hellman, M., Kesti, T., Kleino, I., Samuilova, O., Paakkonen, K., Tossavainen, H., Saksela, K. and Permi, P. 2008. Structural basis of PxxDY motif recognition in SH3 binding. J. Mol. Biol. 382: 167-178.

CHROMOSOMAL LOCATION

Genetic locus: RALGPS1 (human) mapping to 9q33.3.

PRODUCT

Ral GPS1 siRNA (h) 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 Ral GPS1 shRNA Plasmid (h): sc-92962-SH and Ral GPS1 shRNA (h) Lentiviral Particles: sc-92962-V as alternate gene silencing products.

For independent verification of Ral GPS1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-92962A, sc-92962B and sc-92962C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Ral GPS1 siRNA (h) is recommended for the inhibition of Ral GPS1 expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ral GPS1 gene expression knockdown using RT-PCR Primer: Ral GPS1 (h)-PR: sc-92962-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.