SANTA CRUZ BIOTECHNOLOGY, INC.

# RGL4 siRNA (h): sc-76397

## BACKGROUND

Ral GDS (Ral guanine nucleotide dissociation stimulator) is a guanine nucleotide exchange factor (GEF) that activates Ral and is implicated in oncogenic Ras-induced cell transformation. RGL4 (Ral guanine nucleotide dissociation stimulator-like 4), also known as Rgr, is a 473 amino acid protein that localizes to the cytoplasmic vesicle of cells. Belonging to the GEF family of proteins, RGL4 induces phosphorylation of ERKs, p38 and JNK kinases, and it increases the levels of GTP bound forms of Ral and Ras. Ras activation is crucial for the transforming activity of RGL4. Due to its similarity to Ral GDS, RGL4 may be implicated in carcinogenesis.

## REFERENCES


1. Peterson, S.N., et al. 1996. Identification of a novel Ral GDS-related protein as a candidate effector for Ras and Rap 1. J. Biol. Chem. 271: 29903-29908.
2. O'gara, M.J., et al. 1997. Characterization of the Ras binding domain of the Ral GDS-related protein, RLF. Biochem. Biophys. Res. Commun. 238: 425-429.
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4. Hernandez-Muñoz, I., et al. 2000. The Rgr oncogene (homologous to Ral GDS) induces transformation and gene expression by activating Ras, Ral and Rho mediated pathways. Oncogene 19: 2745-2757.
5. Hernández-Muñoz, I., et al. 2000. Rgr oncogene: activation by elimination of translational controls and mislocalization. Cancer Res. 63: 4188-4195.
6. Leonardi, P., et al. 2002. Human Rgr: transforming activity and alteration in T cell malignancies. Oncogene 21: 5108-5116.
7. Martello, L.A., et al. 2006. Biochemical and biological analyses of Rgr Ral GEF oncogene. Meth. Enzymol. 407: 115-128.
8. Xu, J., et al. 2007. Identification of RGL3 as a potential binding partner for Rap-family small G proteins and Profilin-II. Cell. Signal. 19: 1575-1582.


## CHROMOSOMAL LOCATION

Genetic locus: RGL4 (human) mapping to 22q11.23.

## PRODUCT

RGL4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RGL4 shRNA Plasmid (h): sc-76397-SH and RGL4 shRNA (h) Lentiviral Particles: sc-76397-V as alternate gene silencing products.

For independent verification of RGL4 (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-76397A, sc-76397B and sc-76397C.

## 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

RGL4 siRNA (h) is recommended for the inhibition of RGL4 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 µM in 66 µl. 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 RGL4 gene expression knockdown using RT-PCR Primer: RGL4 (h)-PR: sc-76397-PR (20 µl). 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.