

RASL11A siRNA (h): sc-106483

BACKGROUND

RASL11A (RAS like family 11 member A) is a 242 amino acid nuclear protein that belongs to the small GTPase superfamily and the Ras family and has a high degree of similarity to Ras proteins. The three Ras oncogenes, H-Ras, K-Ras and N-Ras, encode proteins with GTP/GDP binding and GTPase activity. Ras proteins alternate between an inactive form bound to GDP and an active form bound to GTP, activated by a guanine nucleotide-exchange factor (GEF) and inactivated by a GTPase-activating protein (GAP). Ras nomenclature originates from the characterization of human DNA sequences homologous to cloned DNA fragments containing oncogenic sequences of a type C mammalian retrovirus, the Harvey strain of murine sarcoma virus (HaMSV), derived from the rat. Under normal conditions, Ras family members influence cell growth and differentiation events in a subcellular membrane compartmentalization-based signaling system. Oncogenic Ras can deregulate processes that control both cell proliferation and apoptosis. RASL11A is a regulator of rDNA transcription and RNA polymerase I transcription. RASL11A expression is downregulated in prostate tumors.

REFERENCES

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2. Cox, A.D. and Der, C.J. 2003. The dark side of Ras: regulation of apoptosis. *Oncogene* 22: 8999-9006.
3. Louro, R., et al. 2004. RASL11A, member of a novel small monomeric GTPase gene family, is down-regulated in prostate tumors. *Biochem. Biophys. Res. Commun.* 316: 618-627.
4. Colicelli, J. 2004. Human RAS superfamily proteins and related GTPases. *Sci. STKE* 2004: RE13.
5. Hancock, J.F. and Parton, R.G. 2005. Ras plasma membrane signalling platforms. *Biochem. J.* 389: 1-11.
6. Giehl, K. 2005. Oncogenic Ras in tumour progression and metastasis. *Biol. Chem.* 386: 193-205.
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CHROMOSOMAL LOCATION

Genetic locus: RASL11A (human) mapping to 13q12.2.

PRODUCT

RASL11A 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 RASL11A shRNA Plasmid (h): sc-106483-SH and RASL11A shRNA (h) Lentiviral Particles: sc-106483-V as alternate gene silencing products.

For independent verification of RASL11A (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-106483A, sc-106483B and sc-106483C.

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

RASL11A siRNA (h) is recommended for the inhibition of RASL11A 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.

GENE EXPRESSION MONITORING

RASL11B (C-3): sc-365425 is recommended as a control antibody for monitoring of RASL11A 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 RASL11A gene expression knockdown using RT-PCR Primer: RASL11A (h)-PR: sc-106483-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.