

# RREB1 siRNA (m): sc-153127

## BACKGROUND

RREB1 (ras responsive element binding protein 1), also known as FINB, LZ321 or Zep-1, is a 1,687 amino acid protein that localizes to nuclear speckles and contains 15 C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Expressed in pancreas, heart, liver, placenta, lung, kidney and skeletal muscle, RREB1 functions as a transcription factor that binds to the Ras-responsive element (RRE) of target gene promoters, thereby inducing their transcription. In addition, RREB1 is thought to be involved in Raf/Ras-mediated cell differentiation, possibly by enhancing the expression of Calcitonin, a hormone that is produced by the thyroid gland and plays an essential role in maintaining blood calcium levels. Due to its involvement in cell differentiation events, RREB1 may be involved in Raf/Ras-related tumor formation. Four isoforms of RREB1 exist due to alternative splicing.

## REFERENCES

1. Carson, E.B., et al. 1995. Ret gene silencing is associated with Raf-1-induced medullary thyroid carcinoma cell differentiation. *Cancer Res.* 55: 2048-2052.
2. Thiagalingam, A., et al. 1996. RREB-1, a novel zinc finger protein, is involved in the differentiation response to Ras in human medullary thyroid carcinomas. *Mol. Cell. Biol.* 16: 5335-5345.
3. Fujimoto-Nishiyama, A., et al. 1997. A novel zinc finger protein, Finb, is a transcriptional activator and localized in nuclear bodies. *Gene* 195: 267-275.
4. Thiagalingam, A., et al. 1997. RREB1, a ras responsive element binding protein, maps to human chromosome 6p25. *Genomics* 45: 630-632.
5. Zhang, L., et al. 1999. A human Raf-responsive zinc-finger protein that binds to divergent sequences. *Nucleic Acids Res.* 27: 2947-2956.
6. Ray, S.K., et al. 2003. Novel transcriptional potentiation of BETA2/NeuroD on the secretin gene promoter by the DNA-binding protein Finb/RREB-1. *Mol. Cell. Biol.* 23: 259-271.
7. Zhang, S., et al. 2003. p16<sup>INK4a</sup> gene promoter variation and differential binding of a repressor, the Ras-responsive zinc-finger transcription factor, RREB. *Oncogene* 22: 2285-2295.
8. Date, S., et al. 2004. Finb, a multiple zinc finger protein, represses transcription of the human angiotensinogen gene. *Int. J. Mol. Med.* 13: 637-642.

## CHROMOSOMAL LOCATION

Genetic locus: Rreb1 (mouse) mapping to 13 A3.3.

## PRODUCT

RREB1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RREB1 shRNA Plasmid (m): sc-153127-SH and RREB1 shRNA (m) Lentiviral Particles: sc-153127-V as alternate gene silencing products.

For independent verification of RREB1 (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-153127A, sc-153127B and sc-153127C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

RREB1 siRNA (m) is recommended for the inhibition of RREB1 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  $\mu$ M in 66  $\mu$ 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

RREB1 (B-7): sc-515600 is recommended as a control antibody for monitoring of RREB1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RREB1 gene expression knockdown using RT-PCR Primer: RREB1 (m)-PR: sc-153127-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.