SANTA CRUZ BIOTECHNOLOGY, INC.

REM siRNA (m): sc-63352

BACKGROUND

Rad and Gem related GTP binding protein (REM) is a member of the RGK subfamily of Ras-like GTPases that also includes Rad, REM2 and Gem/Kir. REM is a phosphorylated protein that is highly expressed in cardiac muscle and moderately expressed in lung, kidney and skeletal muscle. REM associates with several 14-3-3 isoforms as well as with calmodulin in a calcium-dependent manner. REM mediates two distinct signal transduction pathways that regulate both cytoskeletal reorganization and voltage-gated calcium channel activity. REM decreases the current that passes through cardiac voltage-gated L-type Ca channels (Ca(V)). Overexpression of REM may result in the development of cytoplasmic processes, reorganization of the Actin cytoskeleton, reduction in focal adhesion size and an elongated or dendritic-like cell morphology.

REFERENCES

1. Finlin, B.S. and Andres, D.A. 1997. REM is a new member of the Rad- and Gem/Kir Ras-related GTP-binding protein family repressed by lipopolysaccharide stimulation. J. Biol. Chem. 272: 21982-21988.
2. Finlin, B.S. and Andres, D.A. 1999. Phosphorylation-dependent association of the Ras-related GTP-binding protein REM with 14-3-3 proteins. Arch. Biochem. Biophys. 368: 401-412.
3. Finlin, B.S., et al. 2000. REM2, a new member of the REM/Rad/Gem/Kir family of Ras-related GTPases. Biochem. J. 347: 223-231.
4. Pan, J.Y., et al. 2000. Ges, A human GTPase of the Rad/Gem/Kir family, promotes endothelial cell sprouting and cytoskeleton reorganization. J. Cell Biol. 149: 1107-1116.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610388. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Finlin, B.S., et al. 2003. Regulation of voltage-gated calcium channel activity by the REM and Rad GTPases. Proc. Natl. Acad. Sci. USA 100: 14469-14474.

CHROMOSOMAL LOCATION

Genetic locus: Rem1 (mouse) mapping to 2 H1.

PRODUCT

REM 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see REM shRNA Plasmid (m): sc-63352-SH and REM shRNA (m) Lentiviral Particles: sc-63352-V as alternate gene silencing products.

For independent verification of REM (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-63352A, sc-63352B and sc-63352C.

PROTOCOLS

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

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

REM siRNA (m) is recommended for the inhibition of REM 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 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.

GENE EXPRESSION MONITORING

REM (24E4): sc-58472 is recommended as a control antibody for monitoring of REM 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor REM gene expression knockdown using RT-PCR Primer: REM (m)-PR: sc-63352-PR (20 µl, 492 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.