SANTA CRUZ BIOTECHNOLOGY, INC.

SREB1 siRNA (h): sc-63064

BACKGROUND

G protein-coupled receptors (GPRs) are a protein family of transmembrane receptors that transmit an extracellular signal (ligand binding) into an intracellular signal (G protein activation). GPR signaling is an evolutionarily ancient mechanism used by all eukaryotes to sense environmental stimuli and mediate cell-cell communication. GPRs all have seven membrane-spanning domains and extracellular loops that can be glycosylated. These extracellular loops also contain two highly conserved cysteine residues which create disulfide bonds to stabilize the receptor structure. SREB1 (super conserved receptor expressed in brain 1), also known as GPR27 (G protein-coupled receptor 27), belongs to the SREB subfamily of GPRs that are expressed in the central nervous system. SREB1 may function as an amine-like GPR.

REFERENCES

1. O'Dowd, B.F., et al. 1998. Discovery of three novel G protein-coupled receptor genes. Genomics 47: 310-313.
2. Matsumoto, M., et al. 2000. An evolutionarily conserved G protein-coupled receptor family, SREB, expressed in the central nervous system. Biochem. Biophys. Res. Commun. 272: 576-582.
3. Hellebrand, S., et al. 2001. GPR85, a novel member of the G protein-coupled receptor family, prominently expressed in the developing mouse cerebral cortex. Brain Res. Gene Expr. Patterns 1: 13-16.
4. Joost, P. and Methner, A. 2002. Phylogenetic analysis of 277 human G protein-coupled receptors as a tool for the prediction of orphan receptor ligands. Genome Biol. 3: 63.
5. Petek, E., et al. 2003. Molecular characterisation of a 15 Mb constitutional *de novo* interstitial deletion of chromosome 3p in a boy with developmental delay and congenital anomalies. J. Hum. Genet. 48: 283-287.
6. Matsumoto, M., et al. 2005. A conserved mRNA expression profile of SREB2 (GPR85) in adult human, monkey, and rat forebrain. Brain Res. Mol. Brain Res. 138: 58-69.

CHROMOSOMAL LOCATION

Genetic locus: GPR27 (human) mapping to 3p13.

PRODUCT

SREB1 siRNA (h) is a pool of 2 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 SREB1 shRNA Plasmid (h): sc-63064-SH and SREB1 shRNA (h) Lentiviral Particles: sc-63064-V as alternate gene silencing products.

For independent verification of SREB1 (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-63064A and sc-63064B.

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

SREB1 siRNA (h) is recommended for the inhibition of SREB1 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.

GENE EXPRESSION MONITORING

SREB1 (H-6): sc-393454 is recommended as a control antibody for monitoring of SREB1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 SREB1 gene expression knockdown using RT-PCR Primer: SREB1 (h)-PR: sc-63064-PR (20 µl). 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.