SANTA CRUZ BIOTECHNOLOGY, INC.

secretin receptor siRNA (h): sc-40193

BACKGROUND

Secretin, a 27-amino acid hormone, stimulates fluid and electrolyte secretion in the gastrointestinal tract, activates tyrosine hydroxylase activity in the central nervous system, and affects cardiac and renal functions. Secretin specifically binds to the secretin receptor, a member of the G protein-coupled receptor (GPCR) family 2 (also designated family B). GPCRs are characterized by seven transmembrane regions and a common signaling mechanism, by which they interact with G-proteins to regulate the activity of intracellular second messengers, such as cyclic AMP, inositol phosphates, diacylglycerol, and calcium ions. The secretin receptor contains arginine residues at positions 339 and 343, which may be responsible for surface presentation and/or receptor stability, and a lysine residue at position 323, which is necessary for proper G-protein coupling and subsequent cAMP accumulation. The gene encoding the human secretin receptor maps to chromosome 2q14.1, and has significant expression in pancreas, kidney, small intestine, lung, and liver.

REFERENCES

1. Patel, D.R., et al. 1995. Molecular cloning and expression of a human secretin receptor. Mol. Pharmacol. 47: 467-473.
2. Mark, H.F. and Chow, B.K. 1995. Localization of the gene encoding the secretin receptor, SCTR, on human chromosome 2q14.1 by fluorescence *in situ* hybridization and chromosome morphometry. Genomics 29: 817-818.
3. Shetzline, M.A., et al. 1998. A role for receptor kinases in the regulation of class II G protein-coupled receptors. Phosphorylation and desensitization of the secretin receptor. J. Biol. Chem. 273: 6756-6762.
4. Pang, R.T., et al. 1999. Role of N-linked glycosylation on the function and expression of the human secretin receptor. Endocrinology 140: 5102-5111.
5. Di Paolo, E., et al. 1999. Role of charged amino acids conserved in the vasoactive intestinal polypeptide/secretin family of receptors on the secretin receptor functionality. Peptides 20: 1187-1193.

CHROMOSOMAL LOCATION

Genetic locus: SCTR (human) mapping to 2q14.2.

PRODUCT

secretin receptor 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 secretin receptor shRNA Plasmid (h): sc-40193-SH and secretin receptor shRNA (h) Lentiviral Particles: sc-40193-V as alternate gene silencing products.

For independent verification of secretin receptor (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-40193A, sc-40193B and sc-40193C.

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

secretin receptor siRNA (h) is recommended for the inhibition of secretin receptor 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

secretin receptor (E-9): sc-166112 is recommended as a control antibody for monitoring of secretin receptor 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 secretin receptor gene expression knockdown using RT-PCR Primer: secretin receptor (h)-PR: sc-40193-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.