



SSTR5 siRNA (h): sc-42277

BACKGROUND

SSTRs (for somatostatin receptors) represent a family of G protein-coupled receptors which mediate the diverse biological actions of somatostatin (SST). There are five distinct subtypes of SSTRs that bind two natural ligands, SST-14 and SST-28. SSTR2 gives rise to spliced variants, SSTR2A and 2B. SSTRs share common signaling pathways such as the ability to inhibit adenylyl cyclase via GTP binding proteins. Some of the subtypes are also coupled to tyrosine phosphatase (SSTR1,2), Ca^{2+} channels (SSTR2), Na^+/H^+ exchanger (SSTR1), PLA-2 (SSTR4), and MAP kinase (SSTR4). Individual target cells typically express more than one SSTR subtype and often all five isoforms. Subtypes of SSTR can form functional homo- and heterodimers.

REFERENCES

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2. Reardon, D.B., et al. 1997. Activation *in vitro* of somatostatin receptor subtypes 2, 3 or 4 stimulates protein tyrosine phosphatase activity in membranes from transfected Ras-transformed NIH/3T3 cells: coexpression with catalytically inactive SHP-2 blocks responsiveness. *Mol. Endocrinol.* 11: 1062-1069.
3. Patel, Y.C. 1999. Somatostatin and its receptor family. *Front. Neuroendocrinol.* 20: 157-198.
4. Sharma, K., et al. 1999. C-terminal region of human somatostatin receptor 5 is required for induction of Rb and G_1 cell cycle arrest. *Mol. Endocrinol.* 13: 82-90.
5. Kumar, U., et al. 1999. Subtype-selective expression of the five somatostatin receptors (hSSTR1-5) in human pancreatic islet cells: a quantitative double-label immunohistochemical analysis. *Diabetes* 48: 77-85.
6. Rocheville, M., et al. 2000. Receptors for dopamine and somatostatin: formation of hetero-oligomers with enhanced functional activity. *Science* 288: 154-157.
7. Rocheville, M., et al. 2000. Subtypes of the somatostatin receptor assemble as functional homo- and heterodimers. *J. Biol. Chem.* 275: 7862-7869.

CHROMOSOMAL LOCATION

Genetic locus: SSTR5 (human) mapping to 16p13.3.

PRODUCT

SSTR5 siRNA (h) is a target-specific 19-25 nt siRNA 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 SSTR5 shRNA Plasmid (h): sc-42277-SH and SSTR5 shRNA (h) Lentiviral Particles: sc-42277-V as alternate gene silencing products.

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

SSTR5 siRNA (h) is recommended for the inhibition of SSTR5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SSTR5 gene expression knockdown using RT-PCR Primer: SSTR5 (h)-PR: sc-42277-PR (20 μl). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

RESEARCH USE

For research use only, not for use in diagnostic procedures.