SANTA CRUZ BIOTECHNOLOGY, INC.

SR-6 siRNA (h): sc-42244

BACKGROUND

Serotonin (also designated 5-hydroxytryptamine or 5-HT) is a molecule that functions as a neurotransmitter, a hormone and a mitogen, and it is predominantly expressed in the gut, platelets and central nervous system (CNS). In the CNS, serotonin modulates several processes, including anxiety, sleep, appetite, behavior and drug abuse. In platelets and gut, serotonin plays a major role in cardiovascular function and motility of the gastrointestinal tract, respectively. Serotonin mediates its effects through several of G protein-coupled receptors, designated 5-HT receptors or alternatively SR receptors. SR-3 is a ligand-gated ion channel, whereas all other known serotonin receptor subtypes are G protein-coupled receptors. Human SR-6 is one of the latest cloned receptors among the known SR receptors. ISR-6 is expressed in the limbic region, which is involved in the control of mood and emotion and in nervous system diseases such as depression and Alzheimer's disease. The cellular mechanisms of SR-6 have not been clearly elucidated.

REFERENCES

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2. Kenakin, T.P., et al. 1992. Definition of pharmacological receptors. Pharmacol. Rev. 44: 351-362.
3. Weiss, B., et al. 1995. Assignment of a human homolog of the mouse Htr3 receptor gene to chromosome 11q23.1-q23.2. Genomics 29: 304-305.
4. Davies, P.A., et al. 1999. The 5-HT3B subunit is a major determinant of serotonin-receptor function. Nature 397: 359-363.
5. Gingrich, J.A., et al. 2001. Dissecting the role of the serotonin system in neuropsychiatric disorders using knockout mice. Psychopharmacology 155: 1-10.
6. Yun, H.M., et al. 2006. The novel cellular mechanism of human 5-HT6 receptor through an interaction with Fyn. J. Biol. Chem. 282: 5496-5505.
7. Papageorgiou, A., et al. 2006. Estradiol induces expression of 5-hydroxytryptamine (5-HT) 4, 5-HT5 and 5-HT6 receptor mRNA in rat anterior pituitary cell aggregates and allows prolactin release via the 5-HT4 receptor. Endocrinology 148: 1384-1395.
8. Bonsi, P., et al. 2007. Endogenous serotonin excites striatal cholinergic interneurons via the activation of 5-HT 2C, 5-HT6, and 5-HT7 serotonin receptors: implications for extrapyramidal side effects of serotonin reuptake inhibitors. Neuropsychopharmacology 32: 1840-1854.

CHROMOSOMAL LOCATION

Genetic locus: HTR6 (human) mapping to 1p36.13.

RESEARCH USE

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

PROTOCOLS

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

PRODUCT

SR-6 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 SR-6 shRNA Plasmid (h): sc-42244-SH and SR-6 shRNA (h) Lentiviral Particles: sc-42244-V as alternate gene silencing products.

For independent verification of SR-6 (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-42244A, sc-42244B and sc-42244C.

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

SR-6 siRNA (h) is recommended for the inhibition of SR-6 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 SR-6 gene expression knockdown using RT-PCR Primer: SR-6 (h)-PR: sc-42244-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.