



SR-1A siRNA (h): sc-36553

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. β -adrenergic bound to adrenaline activates adenylyl cyclase, while α_2 -adrenergic receptor bound to adrenaline inhibits adenylyl cyclase. Like the α_2 -adrenergic receptor, serotonin receptor functions are also mediated by G proteins that inhibit the activity of adenylyl cyclase. The serotonin receptors have been classified into several categories, designated SR-1-7 (5HT1-7). Subtypes within the SR-1 group include SR-1A, -1B, -1D, -1E and -1F.

REFERENCES

1. Hausdorff, W.P., et al. 1990. Two kinases mediate agonist-dependent phosphorylation and desensitization of the β_2 -adrenergic receptor. *Symp. Soc. Exp. Biol.* 44: 225-240.
2. Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
3. Bertin, B., et al. 1992. Functional expression of the human serotonin 5-HT1A receptor in *Escherichia coli*. Ligand binding properties and interaction with recombinant G protein α -subunits. *J. Biol. Chem.* 267: 8200-8206.
4. Levy, F.O., et al. 1992. Molecular cloning of a human gene (S31) encoding a novel serotonin receptor mediating inhibition of adenylyl cyclase. *FEBS Lett.* 296: 201-206.
5. Barak, L.S., et al. 1995. The conserved seven-transmembrane sequence NP(X)2,3Y of the G protein-coupled receptor superfamily regulates multiple properties of the β_2 -adrenergic receptor. *Biochemistry* 34: 15407-15414.
6. Pandey, S.C., et al. 1995. Phosphoinositide system-linked serotonin receptor subtypes and their pharmacological properties and clinical correlates. *J. Psychiatry Neurosci.* 20: 215-225.

CHROMOSOMAL LOCATION

Genetic locus: HTR1A (human) mapping to 5q12.3.

PRODUCT

SR-1A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SR-1A shRNA Plasmid (h): sc-36553-SH and SR-1A shRNA (h) Lentiviral Particles: sc-36553-V as alternate gene silencing products.

For independent verification of SR-1A (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-36553A, sc-36553B and sc-36553C.

RESEARCH USE

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SR-1A siRNA (h) is recommended for the inhibition of SR-1A 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 μ M in 66 μ l. 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-1A gene expression knockdown using RT-PCR Primer: SR-1A (h)-PR: sc-36553-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kim, D.S., et al. 2023. Combined treatment of *Mori folium* and Mori Cortex Radicis ameliorate obesity in mice via UCP-1 in brown adipocytes. *Nutrients* 15: 3713.
2. Lee, H.Y., et al. 2023. Combination of *Panax ginseng* and *Diospyros kaki* leaf inhibits white adipocyte differentiation and browning process through AMP-activated protein kinase (AMPK) activation *in vitro* and *in vivo*. *Nutrients* 15: 2776.

PROTOCOLS

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