

α_2C -AR siRNA (m): sc-29623

BACKGROUND

α_2C -adrenergic receptors (α_2C -AR) regulate neurotransmitter release from sympathetic nerves in the heart, and from adrenergic neurons in the central nervous system. α_2C -AR can influence Parkinson's disease, panic disorders, and Huntington disease (HD) progression. A genetic variant in the α_2C -AR coding region (Del322-325) renders the receptor partially uncoupled from G_i , and is a contributing risk factor for heart failure. α_2C -AR transcripts are present in rat muscle, heart, pancreas, and kidney.

REFERENCES

1. Eason, M.G., et al. 1993. Human α_2 -adrenergic receptor subtype distribution: widespread and subtype-selective expression of α_2C10 , α_2C4 , and α_2C2 mRNA in multiple tissues. *Mol. Pharmacol.* 44: 70-75.
2. Riess, O., et al. 1994. Precise mapping of the brain α_2 -adrenergic receptor gene within chromosome 4p16. *Genomics* 19: 298-302.
3. Hein, L., et al. 1999. Two functionally distinct α_2 -adrenergic receptors regulate sympathetic neurotransmission. *Nature* 402: 181-184.
4. Gerson, M.C., et al. 2003. Activity of the uptake-1 norepinephrine transporter as measured by I-123 MIBG in heart failure patients with a loss-of-function polymorphism of the presynaptic α_2C -adrenergic receptor. *J. Nucl. Cardiol.* 10: 583-589.
5. Small, K.M., et al. 2004. Polymorphisms of cardiac presynaptic α_2C -adrenergic receptors: diverse intragenic variability with haplotype-specific functional effects. *Proc. Natl. Acad. Sci. USA* 101: 13020-13025.
6. Olave, M.J., et al. 2004. Axon terminals possessing α_2C -adrenergic receptors densely innervate neurons in the rat lateral spinal nucleus which respond to noxious stimulation. *Neuroscience* 126: 391-403.

CHROMOSOMAL LOCATION

Genetic locus: Adra2c (mouse) mapping to 5 B2.

PRODUCT

α_2C -AR siRNA (m) 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 α_2C -AR shRNA Plasmid (m): sc-29623-SH and α_2C -AR shRNA (m) Lentiviral Particles: sc-29623-V as alternate gene silencing products.

For independent verification of α_2C -AR (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-29623A, sc-29623B and sc-29623C.

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.

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

α_2C -AR siRNA (m) is recommended for the inhibition of α_2C -AR expression in mouse 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 α_2C -AR gene expression knockdown using RT-PCR Primer: α_2C -AR (m)-PR: sc-29623-PR (20 μ l, 419 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.