SANTA CRUZ BIOTECHNOLOGY, INC.

α_{2A}-AR siRNA (h): sc-39862

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

α_{2A} adrenergic receptors (AR) regulate neurotransmitter release from sympathetic nerves in the heart and from adrenergic neurons in the central nervous system. α_{2A}-AR regulates the phosphorylation of microtubule-associated protein 2, which in turn mediates dendrite growth of cortical neurons. α_{2A}-AR also contributes to feedback inhibition of pain hypersensitivity.

REFERENCES

1. Hein, L., et al. 1999. Two functionally distinct α_{2A}-adrenergic receptors regulate sympathetic neurotransmission. Nature 402: 181-184.
2. Song, Z.M., et al. 2004. α_{2A} adrenoceptors regulate phosphorylation of microtubule-associated protein-2 in cultured cortical neurons. Neuroscience 123: 405-418.
3. Mansikka, H., et al. 2004. α_{2A}-adrenoceptors contribute to feedback inhibition of capsaicin-induced hyperalgesia. Anesthesiology 101: 185-190.
4. Ihalainen, J.A., et al. 2004. *In vivo* regulation of dopamine and noradrenaline release by α_{2A}-adrenoceptors in the mouse nucleus accumbens. J. Neurochem. 91: 49-56.
5. Ma, D., et al. 2004. Dexmedetomidine produces its neuroprotective effect via the α_{2A}-adrenoceptor subtype. Eur. J. Pharmacol. 502: 87-97.
6. Olli-Lahdesmaki, T., et al. 2004. Ligand-induced α_2-adrenoceptor endocytosis: relationship to G_i protein activation. Biochem. Biophys. Res. Commun. 321: 226-233.
7. Shishkina, G.T., et al. 2004. Influence of neonatal short-term reduction in brainstem α_{2A}-adrenergic receptors on receptor ontogenesis, acoustic startle reflex, and prepulse inhibition in rats. Behav. Neurosci. 118: 1285-1292.
8. LocusLink Report (LocusID: 150). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: ADRA2A (human) mapping to 10q25.2.

PRODUCT

α_{2A}-AR 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 α_{2A}-AR shRNA Plasmid (h): sc-39862-SH and α_{2A}-AR shRNA (h) Lentiviral Particles: sc-39862-V as alternate gene silencing products.

For independent verification of α2A-AR (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-39862A, sc-39862B and sc-39862C.

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

α_{2A}-AR siRNA (h) is recommended for the inhibition of α_{2A}-AR 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 α_{2A}-AR gene expression knockdown using RT-PCR Primer: α_{2A}-AR (h)-PR: sc-39862-PR (20 µl, 419 bp). 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.