SANTA CRUZ BIOTECHNOLOGY, INC.

β-Arrestin-2 siRNA (h): sc-29208

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The Power to Question

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. Members of the β-Arrestin family regulate receptor binding to G proteins. β-Arrestins have been found to be located at postsynaptic sites, where they are thought to act in concert with βARK (βARK-1, also designated GRK 2, or βARK-2, also designated GRK 3) to regulate G protein-coupled neurotransmitter receptors. Expression of β-Arrestin-1 and β-Arrestin-2 is seen predominantly in spleen and neuronal tissues. It has been shown that β-Arrestin-1 expression is modulated by intracellular cAMP, which may be a novel mechanism for the regulation of receptor-mediated responses.

CHROMOSOMAL LOCATION

Genetic locus: ARRB2 (human) mapping to 17p13.2.

PRODUCT

β-Arrestin-2 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 β-Arrestin-2 shRNA Plasmid (h): sc-29208-SH and β-Arrestin-2 shRNA (h) Lentiviral Particles: sc-29208-V as alternate gene silencing 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

β-Arrestin-2 siRNA (h) is recommended for the inhibition of β-Arrestin-2 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.

GENE EXPRESSION MONITORING

β-Arrestin-2 (B-4): sc-365445 is recommended as a control antibody for monitoring of β-Arrestin-2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor β-Arrestin-2 gene expression knockdown using RT-PCR Primer: β-Arrestin-2 (h)-PR: sc-29208-PR (20 µl, 446 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

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4. Abrisqueta, M., et al. 2013. Differential and competitive regulation of human melanocortin 1 receptor signaling by β-Arrestin isoforms. J. Cell Sci. 126: 3724-3737.
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8. Sakamoto, A., et al. 2018. Cross-talk between the transcription factor Sp1 expression of chemokine RANTES. Heliyon 4: e00679.
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11. Melkes, B., et al. 2020. β-Arrestin 2 and ERK1/2 are important mediators engaged in close cooperation between TRPV1 and μ-opioid receptors in the plasma membrane. Int. J. Mol. Sci. 21: E4626.

RESEARCH USE

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