

Arrestin-C siRNA (h): sc-61996

BACKGROUND

Members of Arrestin/ β -Arrestin protein family are thought to participate in agonist-mediated desensitization of G protein-coupled receptors and cause specific dampening of cellular responses to stimuli such as hormones, neurotransmitters or sensory signals. Arrestin-C, also known as retinal cone arrestin-3, X-arrestin or cArr, is a member of the Arrestin family of proteins. It is predominantly found in the retina and pineal gland and localizes to the inner and outer segments of red-, green- and blue-cone photoreceptors and the inner plexiform regions. Two Arrestin-C isoforms exist due to alternative splicing. Isoform 1 is the mature full length protein and isoform 2 is truncated, ending with an Arginine for amino acid residue 359. Arrestin-C expression is stimulated by retinoic acid. It may play a role in retina-specific signal transduction and bind to photoactivated-phosphorylated red/green opsins. In addition, Arrestin-C forms homodimers and oligomers with β -Arrestins and may regulate β -Arrestin mediated signaling.

REFERENCES

1. Ferguson, S.S. 2001. Evolving concepts in G protein-coupled receptor endocytosis: the role in receptor desensitization and signaling. *Pharmacol. Rev.* 53: 1-24.
2. Li, A., et al. 2002. Retinoic acid upregulates cone arrestin expression in retinoblastoma cells through a *cis* element in the distal promoter region. *Invest. Ophthalmol. Vis. Sci.* 43: 1375-1383.
3. Fujimaki, T., et al. 2004. Truncation and mutagenesis analysis of the human X-arrestin gene promoter. *Gene* 339: 139-147.
4. Sutton, R.B., et al. 2005. Crystal structure of cone Arrestin at 2.3Å: evolution of receptor specificity. *J. Mol. Biol.* 354: 1069-1080.

CHROMOSOMAL LOCATION

Genetic locus: ARR3 (human) mapping to Xq13.1.

PRODUCT

Arrestin-C 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 Arrestin-C shRNA Plasmid (h): sc-61996-SH and Arrestin-C shRNA (h) Lentiviral Particles: sc-61996-V as alternate gene silencing products.

For independent verification of Arrestin-C (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-61996A, sc-61996B and sc-61996C.

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

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

GENE EXPRESSION MONITORING

Arrestin-C (2D7): sc-293296 is recommended as a control antibody for monitoring of Arrestin-C 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Arrestin-C gene expression knockdown using RT-PCR Primer: Arrestin-C (h)-PR: sc-61996-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

SELECT PRODUCT CITATIONS

1. Parhamifar, L., et al. 2010. Ligand-induced tyrosine phosphorylation of cysteinyl leukotriene receptor 1 triggers internalization and signaling in intestinal epithelial cells. *PLoS ONE* 5: e14439.

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.