#6218 Store at -20°C

SignalSilence® β-Arrestin 1 siRNA I

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

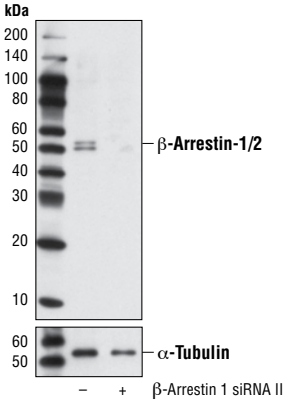
Species Cross-Reactivity: H

Description: SignalSilence® β-Arrestin 1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit β-arrestin 1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

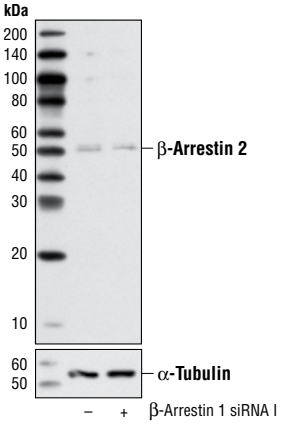
Background: Arrestin proteins function as negative regulators of G protein coupled receptor (GPCR) signaling. Cognate ligand binding stimulates GPCR phosphorylation, which is followed by binding of arrestin to the phosphorylated GPCR and the eventual internalization of the receptor and desensitization of GPCR signaling (1). Four distinct mammalian arrestin proteins are known. Arrestin 1 (also known as S-arrestin) and arrestin 4 (or X-arrestin) are localized to retinal rods and cones, respectively. Arrestin 2 (also known as β-arrestin 1) and arrestin 3 (or β-arrestin 2) are ubiquitously expressed and bind to most GPCRs (2). β-arrestin proteins function as adapters and scaffold proteins and play important roles in other processes, such as recruiting c-Src family proteins to GPCRs in ERK activation pathways (3,4). β-arrestins are also involved in some receptor tyrosine kinase signaling pathways (5-8). Additional evidence suggests that β-arrestin proteins translocate to the nucleus and help regulate transcription by binding transcriptional cofactors (9,10).

Directions for Use: CST recommends transfection with 100 nM β-Arrestin 1 siRNA I 48 to 72 hours prior to cell lysis. For transfection procedure, follow protocol provided by the transfection reagent manufacturer. Please feel free to contact CST with any questions on use.

Quality Control: Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® β-Arrestin 1 siRNA I (+) using β-Arrestin 1/2 (D24H9) XP™ Rabbit mAb #4674 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The β-Arrestin 1 siRNA I confirms silencing of β-Arrestin expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® β-Arrestin 1 siRNA I (+), using β-Arrestin 2 (C16D9) Rabbit mAb #3857 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The β-Arrestin 2 (C16D9) Rabbit mAb confirms specificity of β-Arrestin 1 siRNA I, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #408
Swiss-Prot Acc. #P49407

Storage: β-Arrestin 1 siRNA I is supplied in RNAse-free water. Aliquot and store at -20ºC.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Shenoy, S.K. and Lefkowitz, R.J. (2005) *Sci STKE* 2005, cm10.

(2) Lefkowitz, R.J. and Shenoy, S.K. (2005) *Science* 308, 512-7.

(3) Luttrell, L.M. et al. (1999) *Science* 283, 655-61.

(4) Luttrell, L.M. et al. (1999) *Curr Opin Cell Biol* 11, 177-83.

(5) Luttrell, L.M. and Lefkowitz, R.J. (2002) *J Cell Sci* 115, 455-65.

(6) Waters, C. et al. (2004) *Semin Cell Dev Biol* 15, 309-23.

(7) Lefkowitz, R.J. and Whalen, E.J. (2004) *Curr Opin Cell Biol* 16, 162-8.

(8) Waters, C.M. et al. (2005) *Cell Signal* 17, 263-77.

(9) Kang, J. et al. (2005) *Cell* 123, 833-47.

(10) Ma, L. and Pei, G. (2007) *J Cell Sci* 120, 213-8.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.