SignalSilence® LRP6 siRNA I

#8650 Store at -20°C

☑ 10 µM in 300 µl
(100 Transfections)

Cell Signaling TECHNOLOGY®

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

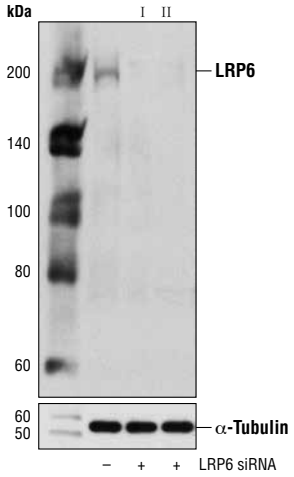
Species Cross-Reactivity: H

Description: SignalSilence® LRP6 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit LRP6 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: LRP5 and LRP6 are single-pass transmembrane proteins belonging to the low-density lipoprotein receptor (LDLR)-related protein family. Unlike other members of the LDLR family, LRP5 and LRP6 have four EGF and three LDLR repeats in the extracellular domain, and proline-rich motifs in the cytoplasmic domain (1). They function as co-receptors for Wnt and are required for the canonical Wnt/β-catenin signaling pathway (2,3). LRP5 and LRP6 are highly homologous and have redundant roles during development (4,5). The activity of LRP5 and LRP6 can be inhibited by the binding of some members of the Dickkopf (DKK) family of proteins (6,7). Upon stimulation with Wnt, LRP6 is phosphorylated at multiple sites including Thr1479, Ser1490, and Thr1493 by kinases such as GSK-3 and CK1 (8-10). Phosphorylated LRP6 recruits axin to the membrane and presumably activates β-catenin signaling (8-10).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® LRP6 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 293 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® LRP6 siRNA I (+) or SignalSilence® LRP6 siRNA II #8623 (+), using LRP6 (C5C7) Rabbit mAb #2560 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The LRP6 (C5C7) Rabbit mAb confirms silencing of LRP6 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #4040
Swiss-Prot Acc. #O75581

Storage: LRP6 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) Brown, S.D. et al. (1998) *Biochem. Biophys. Res. Commun.* 248, 879-888.
(2) Pinson, K.I. et al. (2000) *Nature* 407, 535-538.
(3) Tamai, K. et al. (2000) *Nature* 407, 530-535.
(4) Kelly, O.G. et al. (2004) *Development* 131, 2803-2815.
(5) He, X. et al. (2004) *Development* 131, 1663-1677.
(6) Semënov, M.V. et al. (2001) *Curr Biol* 11, 951-61.
(7) Bafico, A. et al. (2001) *Nat. Cell Biol.* 3, 683-668.
(8) Tamai, K. et al. (2004) *Mol. Cell* 13, 149-156.
(9) Zeng, X. et al. (2005) *Nature* 438, 873-877.
(10) Davidson, G. et al. (2005) *Nature* 438, 867-872.

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.