SignalSilence® SMARCC2 siRNA I

#7431 Store at -20°C

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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

Species Cross-Reactivity: H

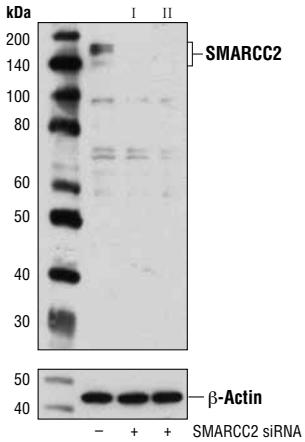
Description: SignalSilence® SMARCC2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit SMARCC2 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: ATP-dependent chromatin remodeling complexes play an essential role in the regulation of nuclear processes such as transcription and DNA replication and repair (1,2). The SWI/SNF chromatin remodeling complex consists of more than 10 subunits and contains a single molecule of either BRM or BRG1 as the ATPase catalytic subunit. The activity of the ATPase subunit disrupts histone-DNA contacts and changes the accessibility of crucial regulatory elements to the chromatin. The additional core and accessory subunits play a scaffolding role to maintain stability and provide surfaces for interaction with various transcription factors and chromatin (2-5). The interactions between SWI/SNF subunits and transcription factors such as nuclear receptors, p53, Rb, BRCA1, and MyoD facilitate recruitment of the complex to target genes to regulate gene activation, cell growth, cell cycle, and differentiation processes (1,6-9).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® SMARCC2 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.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 µl per well.

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® SMARCC2 siRNA I (+) or SignalSilence® SMARCC2 siRNA II #7624 (+), using SMARCC2/BAF170 Antibody #8829 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The SMARCC2/BAF170 Antibody confirms silencing of SMARCC2 expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #6601
Swiss-Prot Acc. #Q8TAQ2

Storage: SMARCC2 siRNA I is supplied in RNAse-free water. *Aliquot and store at -20°C.*

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

Background References:

(1) Ho, L. and Crabtree, G.R. (2010) *Nature* 463, 474-84.

(2) Becker, P.B. and Hörz, W. (2002) *Annu Rev Biochem* 71, 247-73.

(3) Eberharter, A. and Becker, P.B. (2004) *J Cell Sci* 117, 3707-11.

(4) Bowman, G.D. (2010) *Curr Opin Struct Biol* 20, 73-81.

(5) Gangaraju, V.K. and Bartholomew, B. (2007) *Mutat Res* 618, 3-17.

(6) Lessard, J.A. and Crabtree, G.R. (2010) *Annu Rev Cell Dev Biol* 26, 503-32.

(7) Morettini, S. et al. (2008) *Front Biosci* 13, 5522-32.

(8) Wolf, I.M. et al. (2008) *J Cell Biochem* 104, 1580-6.

(9) Simone, C. (2006) *J Cell Physiol* 207, 309-14.

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.