Store at -20°C

#14711

SignalSilence® AEBP2 siRNA I

www.cellsignal.com

Support: 877-678-TECH (8324)
www.cellsignal.com/support

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Entrez-Gene ID #121536
UniProt ID #Q6ZN18

New 12/14

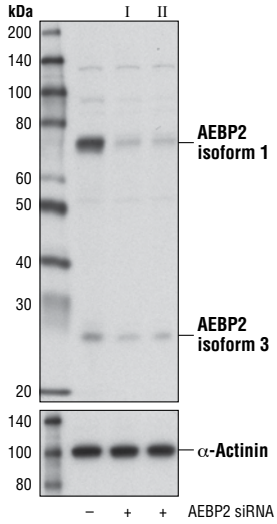
For Research Use Only. Not For Use In Diagnostic Procedures.

Species Cross-Reactivity: H, (M, R)

Description: SignalSilence® AREBP2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit AEBP2 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: Polycomb group (PcG) proteins contribute to the maintenance of cell identity, stem cell self-renewal, cell cycle regulation, and oncogenesis by maintaining the silenced state of genes that promote cell lineage specification, cell death, and cell-cycle arrest (1-4). PcG proteins exist in two complexes that cooperate to maintain long-term gene silencing through epigenetic chromatin modifications. The PRC2 (EZH2-EED) complex is recruited to genes by DNA-binding transcription factors and methylates histone H3 on Lys27. Methylation of Lys27 facilitates the recruitment of the PRC1 complex, which ubiquitinylates histone H2A on Lys119 (5). Suppressor of Zeste 12 (SUZ12) is an obligate component of the PRC2 complex, which together with EZH2 and EED is absolutely required for histone methyltransferase activity of the protein complex (6).

The zinc finger AE binding protein 2 (AEBP2) is another integral component of the PRC2 complex. Addition of AEBP2 to the PRC2 core complex (EZH2-EED-SUZ12) enhances histone H3 Lys27 methyltransferase activity on nucleosomal substrates *in vitro*, which may be mediated in part by three AEBP2 DNA-binding zinc finger domains (5,7). AEBP2-mediated enhancement of enzymatic activity is greater on nucleosomal substrates that contain mono-ubiquitinated histone H2A Lys119, which suggests that AEBP2 may target PRC2 complexes *in vivo* through binding to DNA and mono-ubiquitinated histone H2A Lys119 (8).



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® AEBP2 siRNA I (+), or SignalSilence® AEBP2 siRNA II #14713 (+), using AEBP2 (D7C6X) Rabbit mAb #14129 (upper) and α-Actinin (D6F6) XP® Rabbit mAb #6487 (lower). The AEBP2 (D7C6X) Rabbit mAb confirms silencing of AEBP2 expression, while the α-Actinin (D6F6) XP® Rabbit mAb is used as a loading control.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® AEBP2 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.

Storage: AEBP2 siRNA I is supplied in RNAse-free water. *Aliquot and store at -20°C.*

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

(1) Boyer, L.A. et al. (2006) *Nature* 441, 349-53.
(2) Cao, R. et al. (2002) *Science* 298, 1039-43.
(3) Müller, J. et al. (2002) *Cell* 111, 197-208.
(4) Lee, T.I. et al. (2006) *Cell* 125, 301-13.
(5) Cao, R. and Zhang, Y. (2004) *Mol Cell* 15, 57-67.
(6) Wang, H. et al. (2004) *Nature* 431, 873-8.
(7) Kim, H. et al. (2009) *Nucleic Acids Res* 37, 2940-50.
(8) Kalb, R. et al. (2014) *Nat Struct Mol Biol* 21, 569-71.

Thank you for your recent purchase. If you would like to provide a review visit www.cellsignal.com/comments.

Cell Signaling TECHNOLOGY®

Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **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.