

Store at  
-20°C

# SignalSilence® DMAP1 siRNA I

www.cellsignal.com

#14250

Support: 877-678-TECH (8324)  
info@cellsignal.comOrders: 877-616-CELL (2355)  
orders@cellsignal.comEntrez-Gene ID #55929  
UniProt ID #Q9NPF5

New 07/14

**For Research Use Only. Not For Use In Diagnostic Procedures.****Species Cross-Reactivity: H**

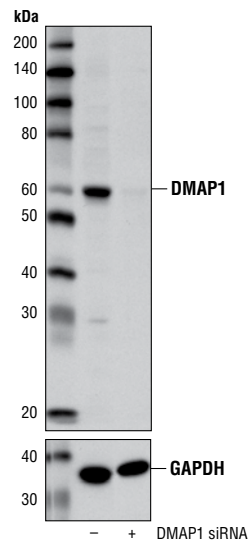
**Description:** SignalSilence® DMAP1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit DMAP1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

**Background:** DNA methyltransferase 1 (DNMT1)-associated protein 1 (DMAP1) is a nuclear protein that functions in transcriptional repression and DNA repair. DMAP1 was first identified as an activator of DNMT1 methyltransferase activity (1). Both DMAP1 and DNMT1 are targeted to replication foci during S phase and function to transfer proper methylation patterns to newly synthesized DNA during replication (1). In late S phase, DMAP1-DNMT1 co-operate with a p33ING1-Sin3-HDAC2 complex to maintain pericentric heterochromatin by deacetylating histones, methylating histone H3 at Lys9, and methylating DNA (1,2). The DMAP1 protein is also part of the TIP60-p400 complex, a histone acetyltransferases (HAT) and chromatin-remodeling complex that functions in DNA repair (3,4). Upon DNA damage, the TIP60-p400 complex acetylates histone H4 at Lys16 to induce chromatin relaxation and activation of the ATM kinase. DMAP1 is required for DNA-damage induced TIP60-p400-mediated histone acetylation, and deletion of DMAP1 impairs AMT function (5). DMAP1-DNMT1 may also methylate DNA at sites of DNA damage during homologous recombination, which results in gene silencing (6).

**Directions for Use:** CST recommends transfection with 100 nM SignalSilence® DMAP1 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 (-) or SignalSilence® DMAP1 siRNA I (+), using DMAP1 Antibody #13326 (upper) or GAPDH (D16H11) XP® Rabbit mAb #5174 (lower). The DMAP1 Antibody confirms silencing of DMAP1 expression, while the GAPDH (D16H11) XP® Rabbit mAb is used as a loading control.

**Storage:** DMAP1 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](http://www.cellsignal.com)**

**Background References:**

- (1) Rountree, M.R. et al. (2000) *Nat Genet* 25, 269-77.
- (2) Xin, H. et al. (2004) *J Biol Chem* 279, 9539-46.
- (3) Cai, Y. et al. (2003) *J Biol Chem* 278, 42733-6.
- (4) Doyon, Y. et al. (2004) *Mol Cell Biol* 24, 1884-96.
- (5) Penicud, K. and Behrens, A. (2013) *Oncogene*, 525-31.
- (6) Lee, G.E. et al. (2010) *J Biol Chem* 285, 37630-40.

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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 S—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.