#11866 Store at -20°C

SignalSilence® APC2 siRNA I

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355) orders@cellsignal.com
Support ■ 877-678-TECH (8324) info@cellsignal.com
Web ■ www.cellsignal.com

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

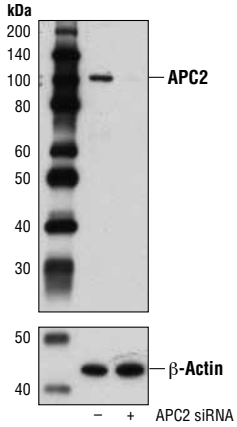
Species Cross-Reactivity: H, (Mk)

Description: SignalSilence® APC2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit APC2 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: Cell proliferation in all eukaryotic cells depends strictly upon the ubiquitin ligase (E3) activity of the anaphase promoting complex/cyclosome (APC/C), whose main function is to trigger the transition of the cell cycle from metaphase to anaphase. APC/C is a 1.5 MDa protein complex found in the nucleus of interphase cells. This complex diffuses throughout the cytoplasm and associates with parts of the spindle apparatus during mitosis. APC/C performs its various functions by promoting the assembly of polyubiquitin chains on substrate proteins, which targets these proteins for degradation by the 26S proteasome (1,2). In humans, twelve different APC/C subunits have been identified. Like all E3 enzymes, APC/C utilizes ubiquitin that has been activated by E1 enzymes and then transferred to E2 enzymes. Indeed APC/C has been shown to transiently interact with UBCH5 and UBCH10 E2 enzymes, in part, via the RING-finger domain-containing subunit, APC11 (3-5). In addition to E2 enzymes, APC/C activity is also strictly dependent upon one of several cofactors that associate with APC/C during specific phases of the cell cycle. The best studied of these are Cdc20 and Cdh1/FZR1, which contain a C-terminal WD40 domain and participate in the recognition of APC/C substrates by interacting with specific recognition elements in these substrates (6), called D-boxes (7) and KEN-boxes (8).

Anaphase-promoting complex subunit 2 (APC2) is a distant member of the cullin family (9,10) that interacts with a RING-H2 finger protein related to Rbx1/Hrt1/Roc1, called APC11, to form the catalytic subcomplex of the APC/C. The APC2/11 subcomplex recruits E2 enzymes such as UBE2C/UBCH10 and is required for the APC/C to catalyze substrate ubiquitination (11). Therefore, APC is a member of the expanding family of cullin-RING finger-based ubiquitin ligases. The physiologic importance of APC2 was underscored by the finding that disruption of murine *Apc2* causes embryonic lethality (12).

Specificity/Sensitivity: APC2 siRNA I inhibits human and monkey APC2 expression.



Western blot analysis of extracts from 293T cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® APC2 siRNA I (+), using APC2 Antibody #12301 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The APC2 Antibody confirms silencing of APC2 expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® APC2 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.

Entrez-Gene ID #29882
Swiss-Prot Acc. #Q9UJX6

Storage: APC2 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) Qiao, X. et al. (2010) *Cell Cycle* 9, 3904-12.
(2) Harper, J.W. et al. (2002) *Genes Dev* 16, 2179-206.
(3) Carroll, C.W. and Morgan, D.O. (2002) *Nat Cell Biol* 4, 880-7.
(4) Gmachl, M. et al. (2000) *Proc Natl Acad Sci U S A* 97, 8973-8.
(5) Leverson, J.D. et al. (2000) *Mol Biol Cell* 11, 2315-25.
(6) Kraft, C. et al. (2005) *Mol Cell* 18, 543-53.
(7) Glotzer, M. et al. (1991) *Nature* 349, 132-8.
(8) Pfleger, C.M. and Kirschner, M.W. (2000) *Genes Dev* 14, 655-65.
(9) Zachariae, W. et al. (1998) *Science* 279, 1216-9.
(10) Yu, H. et al. (1998) *Science* 279, 1219-22.
(11) Tang, Z. et al. (2001) *Mol Biol Cell* 12, 3839-51.
(12) Wirth, K.G. et al. (2004) *Genes Dev* 18, 88-98.

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.