#8896 Store at -20°C

SignalSilence® ERCC1 siRNA I

☑ 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

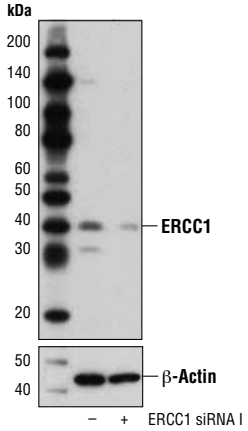
Description: SignalSilence® ERCC1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit ERCC1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce protein expression by western analysis.

Background: DNA repair systems operate in all living cells to manage a variety of DNA lesions. Nucleotide excision repair (NER) is implemented in cases where bulky helix-distorting lesions, such as those brought about by UV and certain chemicals occur (1). Excision Repair Cross Complementing 1 (ERCC1) forms a complex with XPF, which acts as the 5' endonuclease required to excise the lesion (2). ERCC1-XPF is also required for repair of DNA interstrand crosslinks (ICLs) (3) and involved in repair of double strand breaks (4). Research studies have shown that expression of ERCC1 is related to survival rate and response to chemotherapeutic drugs in several human cancers including non-small cell lung cancer (NSCLC) (5,6).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® ERCC1 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® ERCC1 siRNA I (+), using ERCC1 (D61F5) Rabbit mAb #5437 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The ERCC1 (D61F5) Rabbit mAb confirms silencing of ERCC1 expression while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #2067
Swiss-Prot Acc. #P07992

Storage: ERCC1 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) Shuck, S.C. et al. (2008) *Cell Res* 18, 64-72.

(2) McDaniel, L.D. and Schultz, R.A. (2008) *Adv Exp Med Biol* 637, 65-82.

(3) Niedernhofer, L.J. et al. (2004) *Mol Cell Biol* 24, 5776-87.

(4) Ahmad, A. et al. (2008) *Mol Cell Biol* 28, 5082-92.

(5) Zheng, Z. et al. (2007) *N Engl J Med* 356, 800-8.

(6) Gossage, L. and Madhusudan, S. (2007) *Cancer Treat Rev* 33, 565-77.

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.