# SignalSilence® p21 Waf1/Cip1 siRNA II

#6558 Store at -20°C

☑ 10 µM in 300 µl
(100 Transfections)

Cell Signaling TECHNOLOGY®

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rev. 02/11/16

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

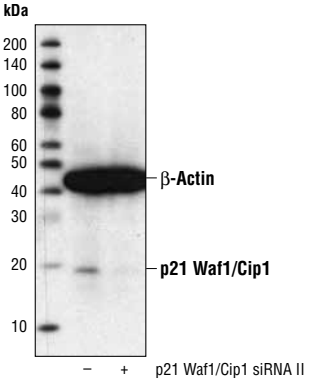
**Species Cross-Reactivity: H, M, R**

**Description:** SignalSilence® p21 Waf1/Cip1 siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit p21 Waf1/Cip1 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 are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

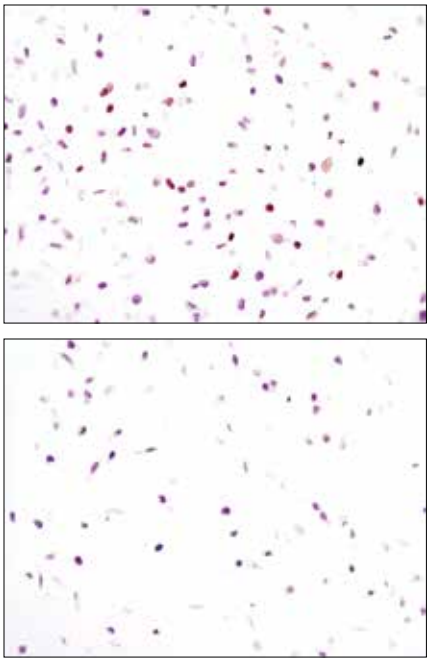
**Background:** The tumor suppressor protein p21 Waf1/Cip1 acts as an inhibitor of cell cycle progression. It functions in stoichiometric relationships forming heterotrimeric complexes with cyclins and cyclin-dependent kinases. In association with CDK2 complexes, it serves to inhibit kinase activity and block progression through G1/S (1). However, p21 may also enhance assembly and activity in complexes of CDK4 or CDK6 and cyclin D (2). The carboxy-terminal region of p21 is sufficient to bind and inhibit PCNA, a subunit of DNA polymerase, and may coordinate DNA replication with cell cycle progression (3). Upon UV damage or during cell cycle stages when cdc2/cyclin B or CDK2/cyclin A are active, p53 is phosphorylated and upregulates p21 transcription via a p53 responsive element (4). Protein levels of p21 are downregulated through ubiquitination and proteasomal degradation (5).

**Directions for Use:** CST recommends transfection with 100 nM p21 Waf1/Cip1 siRNA II 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.

**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 (Fluorescein Conjugate) #6201 (-) or SignalSilence® p21 Waf1/Cip1 siRNA II (+), using p21 Waf1/Cip1 (12D1) Rabbit mAb #2947 and α-Tubulin (11H10) Rabbit mAb #2125. The p21 Waf1/Cip1 (12D1) Rabbit mAb confirms silencing of p21 Waf1/Cip1 expression and α-Tubulin (11H10) Rabbit mAb is used to control for loading and specificity of p21 Waf1/Cip1 siRNA.*



*Immunohistochemical analysis on paraffin-embedded HeLa cells, transfected with SignalSilence® Control siRNA (Unconjugated) #6568 (upper) or SignalSilence® p21 Waf1/Cip1 siRNA II #6558 (lower) using p21 Waf1/Cip1 (12D1) Rabbit mAb #2947.*

**Entrez-Gene ID** #1026
**Swiss-Prot Acc.** #P38936

**Storage:** p21 Waf1/Cip1 siRNA II 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) Pestell, R.G. et al. (1999) *Endocrine Rev.* 20, 501–534.

(2) Cheng, J. et al. (1999) *EMBO J.* 18, 1571–1583.

(3) Flores-Rozas, H. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 8655–8659.

(4) Wang, Y. and Prives, C. (1995) *Nature* 376, 88–91.

(5) Sheaff, R.J. et al. (2000) *Cell* 5, 403–410.



**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.