SignalSilence® Atg5 siRNA I

#6345 Store at -20°C

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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

rev. 02/10/16

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

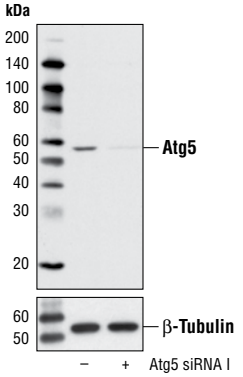
Species Cross-Reactivity: H

Description: SignalSilence® Atg5 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Atg5 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: Autophagy is a catabolic process for the autophagosomic-lysosomal degradation of bulk cytoplasmic contents (1,2). Autophagy is generally activated by conditions of nutrient deprivation but has also been associated with a number of physiological processes including development, differentiation, neurodegeneration, infection and cancer (3). The molecular machinery of autophagy was largely discovered in yeast and referred to as **a**u**t**opha**g**y-related (Atg) genes. Formation of the autophagosome involves an ubiquitin-like conjugation system in which Atg12 is covalently bound to Atg5 and targeted to autophagosome vesicles (4-6). This conjugation reaction is mediated by the ubiquitin-E1-like enzyme Atg7 and the E2-like enzyme Atg10 (7,8).

Directions for Use: CST recommends transfection with 100 nM Atg5 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.

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® Atg5 siRNA I (+), using Atg5 Antibody #2630 (upper) or β-Tubulin (9F3) Rabbit mAb #2128 (lower). The Atg5 Antibody confirms silencing of Atg5 expression, while the β-Tubulin (9F3) Rabbit mAb is used as a loading control.

Entrez-Gene ID #9474
Swiss-Prot Acc. #Q9HIY0

Storage: Atg5 siRNA I is supplied in RNAse-free water. Aliquot and store at -20ºC.

Background References:

(1) Reggiori, F. and Klionsky, D.J. (2002) *Eukaryot Cell* 1, 11-21.
(2) Codogno, P. and Meijer, A.J. (2005) *Cell Death Differ* 12 Suppl 2, 1509-18.
(3) Levine, B. and Yuan, J. (2005) *J Clin Invest* 115, 2679-88.
(4) Mizushima, N. et al. (1998) *J Biol Chem* 273, 33889-92.
(5) Mizushima, N. et al. (1998) *Nature* 395, 395-8.
(6) Suzuki, K. et al. (2001) *EMBO J* 20, 5971-81.
(7) Tanida, I. et al. (1999) *Mol Biol Cell* 10, 1367-79.
(8) Shintani, T. et al. (1999) *EMBO J* 18, 5234-41.

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.