SignalSilence® HtrA2/Omi siRNA I

#7574 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. 02/23/16

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

Species Cross-Reactivity: H, (Mk)

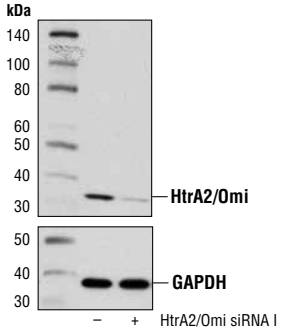
Description: SignalSilence® HtrA2/Omi siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit HtrA2/Omi expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: High temperature requirement protein A2 (HtrA2)/Omi is a serine protease with homology to the *E. coli* HtrA protein (DegP) and is thought to be involved in apoptosis and stress-induced degradation of misfolded proteins (1). While HtrA2 was orignally identified to be present in either the nucleus (1) or endoplasmic reticulum (2), subsequent studies have shown that it localizes in mitochondria and is released during apoptosis (3-8). HtrA2 is produced as a 50 kDa zymogen that is cleaved to generate a 36 kDa mature protein that exposes an amino terminal motif (AVPS) resembling that of the IAP inhibitor Smac/Diablo (3-8). Like Smac, interaction between HtrA2 and IAP family members, such as XIAP, antagonizes their inhibition of caspase activity and protection from apoptosis (3-8). Interestingly, HtrA2 knock-out mice did not show signs of reduced apoptosis, but rather had a loss of neurons in the striatum and a Parkinson's-like phenotype, suggesting that HtrA2 might have a neuroprotective function (9-11). This activity is associated with the protease activity of HtrA2 (9). Furthermore, research studies have shown that loss of function mutations in the HtrA2 gene are associated with Parkinson's disease (12).

Specificity/Sensitivity: SignalSilence® HtrA2/Omi siRNA I inhibits human and monkey HtrA2/Omi expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® HtrA2/Omi 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 293T cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® HtrA2/Omi siRNA I (+), using HtrA2/Omi (D20A5) Rabbit mAb #9745 (upper) or GAPDH (D16H11) XP® Rabbit mAb #5174 (lower). The HtrA2/Omi (D20A5) Rabbit mAb confirms silencing of HtrA2/Omi expression, while the GAPDH (D16H11) XP® Rabbit mAb is used as a loading control.

Entrez-Gene ID #27429
Swiss-Prot Acc. #043464

Storage: HtrA2/Omi 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) Gray, C.W. et al. (2000) *Eur. J. Biochem.* 267, 5699-5710.
(2) Faccio, L. et al. (2000) *J. Biol. Chem.* 275, 2581-2588.
(3) Suzuki, Y. et al. (2001) *Mol. Cell* 8, 613-621.
(4) Hegde, R. et al. (2002) *J. Biol. Chem.* 277, 432-438.
(5) Martins, L.M. et al. (2002) *J. Biol. Chem.* 277, 439-444.
(6) van Loo, G. et al. (2002) *Cell Death Differ.* 9, 20-26.
(7) Verhagen, A.M. et al. (2002) *J. Biol. Chem.* 277, 445-454.
(8) Martins, L.M. et al. (2002) *J. Biol. Chem.* 277, 439-444.
(9) Jones, J.M. et al. (2003) *Nature* 425, 721-727.
(10) Vaux, D.L. and Silke, J. (2003) *Cell* 115, 251-253.
(11) Martins, L.M. et al. (2004) *Mol. Cell Biol.* 24, 9848-9862.
(12) Strauss, K.M. et al. (2005) *Hum. Mol. Genet.* 14, 2099-2111.

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.