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SignalSilence® LRF/Pokemon siRNA I

Cell Signaling TECHNOLOGY®

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

Species Cross-Reactivity: H

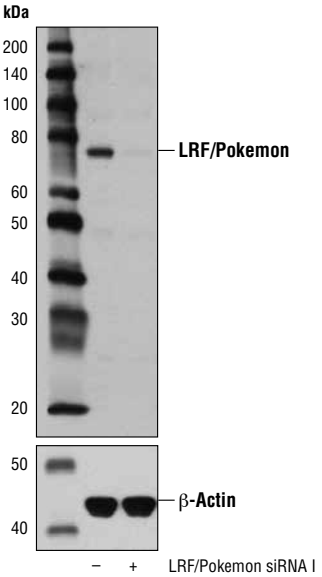
Description: SignalSilence® LRF/Pokemon siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit LRF (pokemon) expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the 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: Zinc finger and BTB domain-containing protein 7A (LRF, pokemon, FBI1) is a transcriptional repressor encoded by the *ZBTB7A* gene that belongs to the POK (POZ and *Kruppel*)/ZBTB (zinc finger and BTB) family (1). LRF is broadly expressed with elevated expression in a variety of cancers relative to normal tissues, including non-small cell lung cancer, breast cancer, ovarian cancer, prostate cancer, and hepatocellular carcinoma (1-8). Research studies suggest that LRF acts as an oncogene through various mechanisms including repression of the tumor suppressors ARF and Rb, and repression of the cell cycle arrest factor p21Cip1 (9-11). The LRF transcription factor plays key roles during several stages of hematopoiesis, promoting lymphoid progenitor cells to commit to B cell differentiation by repressing T cell-promoting Notch signals, and promoting cell survival during terminal erythroid differentiation through suppression of the proapoptotic factor Bim (12,13).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® LRF/Pokemon 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® LRF/Pokemon siRNA I (+) using LRF/Pokemon Antibody #13097 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The LRF/Pokemon Antibody confirms silencing of LRF/Pokemon expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #51341
Swiss-Prot Acc. #O95365

Storage: LRK/Pokemon 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) Lee, S.U. and Maeda, T. (2012) *Immunol Rev* 247, 107-19.
(2) Apostolopoulou, K. et al. (2007) *J Pathol* 213, 294-302.
(3) Zhao, Z.H. et al. (2008) *Lung Cancer* 62, 113-9.
(4) Qu, H. et al. (2010) *Cancer Invest* 28, 672-8.
(5) Aggarwal, A. et al. (2010) *Exp Mol Pathol* 89, 140-8.
(6) Jiang, L. et al. (2010) *Mol Cancer* 9, 318.
(7) Aggarwal, H. et al. (2011) *Exp Mol Pathol* 90, 226-30.
(8) Fang, F. et al. (2012) *Cancer* 118, 134-46.
(9) Maeda, T. et al. (2005) *Nature* 433, 278-85.
(10) Jeon, B.N. et al. (2008) *J Biol Chem* 283, 33199-210.
(11) Choi, W.I. et al. (2009) *J Biol Chem* 284, 12633-44.
(12) Maeda, T. et al. (2007) *Science* 316, 860-6.
(13) Maeda, T. et al. (2009) *Dev Cell* 17, 527-40.

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.