Store at -20°C

#14212

SignalSilence® TAB3 siRNA I

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Entrez-Gene ID #257397
UniProt ID #Q8N5C8

New 07/14

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

Species Cross-Reactivity: H

Description: SignalSilence® TAB3 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit TAB3 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.

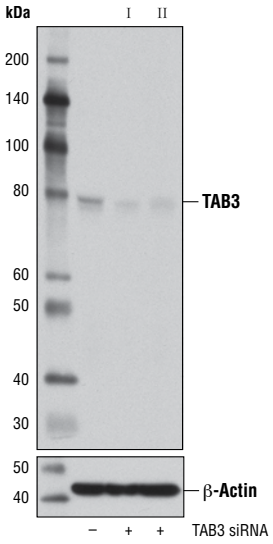
Background: TAK1 is a mitogen-activated protein kinase kinase kinase activated by TGF-β and various pro-inflammatory signals (1,2). *In vivo*, TAK1 activation requires its association with TAK1 binding protein 1 (TAB1), which triggers TAK1 autophosphorylation at Thr184 and Thr187 (3,4). The TAB2 adaptor protein links TAK1 with TRAF6 to mediate TAK1 activation following IL-1 stimulation (5). Once activated, TAK1 phosphorylates the MAPK kinases MKK4 and MKK3/6, which activate JNK and p38 MAPK, respectively. TAK1 and TRAF6 also activate the NF-κB pathway by phosphorylating the NF-κB inducing kinase (NIK) to trigger subsequent activation of IKK (2,6). In addition to TAK1, TAB1 interacts with and activates p38α MAPK (7). Targeted disruption of the TAB1 gene in mice causes a drastic reduction in TAK1 activity and leads to embryonic lethality (8).

TAK1-binding protein 3 (TAB3) is an additional binding partner for TAK1 and appears to be functionally redundant to TAB2 protein (9,10). The carboxy-terminal zinc finger domains in TAB2 and TAB3 bind to lysine 63-linked polyubiquitin chains within target proteins, including TRAF6, IKKγ, and RIP, which results in activation of IKK (11). Research studies also indicate that TAB2 and TAB3 proteins negatively regulate autophagy through interaction with beclin-1 (12,13).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® TAB3 siRNA I 48 to 72 hours prior to cell lysis. For transfection procedure, follow the 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 293T cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® TAB3 siRNA I (+), or SignalSilence® TAB3 siRNA II #14225 (+), using TAB3 (D5J7D) Rabbit mAb #14241 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The TAB3 (D5J7D) Rabbit mAb confirms silencing of TAB3 expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Storage: TAB3 siRNA I is supplied in RNAse-free water. *Aliquot and store at -20°C.*

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

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(4) Sakurai, H. et al. (2000) *FEBS Lett* 474, 141-5.
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(8) Komatsu, Y. et al. (2002) *Mech Dev* 119, 239-49.
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Cell Signaling TECHNOLOGY®

Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **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.