SANTA CRUZ BIOTECHNOLOGY, INC.

TAB1 siRNA (bovine): sc-270076

BACKGROUND

The TAK1 binding proteins, TAB1, TAB2 and TAB3, interact with the MAPKKK TAK1 in response to various stimuli. TAB1 activates TAK1 in TGFβ mediated signaling. TAB1 also plays a central role in a p38α activation pathway that is independent of MAPKK. In response to pro-inflammatory signals, TAB2 complexes with TRAF6 and TAK1, leading to translocation of the complex from the membrane to the cytosol and the subsequent activation of TAK1. When overexpressed, TAB3 activates both NFκB and AP-1 transcription factors. In response to TNFα or IL-1, TAK1 complexes with TAB1 and TAB2 or with TAB1 and TAB3 to yield two distinct complexes.

REFERENCES

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3. Ge, B., Gram, H., Di Padova, F., Huang, B., New, L., Ulevitch, R.J., Luo, Y. and Han, J. 2002. MAPKK-independent activation of p38α mediated by TAB1-dependent autophosphorylation of p38α. Science 295: 1291-1294.
4. Jiang, Z., Ninomiya-Tsuji, J., Qian, Y., Matsumoto, K. and Li, X. 2002. Interleukin-1 (IL-1) receptor-associated kinase-dependent IL-1-induced signaling complexes phosphorylate TAK1 and TAB2 at the plasma membrane and activate TAK1 in the cytosol. Mol. Cell. Biol. 22: 7158-7167.
5. Jin, G., Klika, A., Callahan, M., Faga, B., Danzig, J., Jiang, Z., Li, X., Stark, G.R., Harrington, J. and Sherf, B. 2004. Identification of a human NFκB-activating protein, TAB3. Proc. Natl. Acad. Sci. USA 101: 2028-2033.

CHROMOSOMAL LOCATION

Genetic locus: TAB1 (bovine) mapping to 5.

PRODUCT

TAB1 siRNA (bovine) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TAB1 shRNA Plasmid (bovine): sc-270076-SH and TAB1 shRNA (bovine) Lentiviral Particles: sc-270076-V as alternate gene silencing products.

For independent verification of TAB1 (bovine) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270076A, sc-270076B and sc-270076C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TAB1 siRNA (bovine) is recommended for the inhibition of TAB1 expression in bovine cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TAB1 gene expression knockdown using RT-PCR Primer: TAB1 (bovine)-PR: sc-270076-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.