

Taok3 siRNA (m): sc-154067

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. Taok3 (TAO kinase 3) is an 898 amino acid mouse protein that contains one protein kinase domain and belongs to the Ser/Thr family of protein kinases. Localized to the cytoplasm, Taok3 uses ATP to catalyze the phosphorylation of target proteins and functions to inhibit the basal activity of JNK. Taok3 activity is negatively regulated by EGF and, upon DNA damage, Taok3 may be phosphorylated by ATM or ATR. The human homolog of Taok3, designed JIK (JNK/SAPK-inhibitory kinase), functions in a similar manner to its mouse counterpart.

REFERENCES

1. Tassi, E., Biesova, Z., Di Fiore, PP., Gutkind, J.S. and Wong, W.T. 1999. Human JIK, a novel member of the STE20 kinase family that inhibits JNK and is negatively regulated by epidermal growth factor. *J. Biol. Chem.* 274: 33287-33295.
2. Nishina, H., Wada, T. and Katada, T. 2004. Physiological roles of SAPK/JNK signaling pathway. *J. Biochem.* 136: 123-126.
3. MacKeigan, J.P., Murphy, L.O. and Blenis, J. 2005. Sensitized RNAi screen of human kinases and phosphatases identifies new regulators of apoptosis and chemoresistance. *Nat. Cell Biol.* 7: 591-600.
4. Wakabayashi, T., Kosaka, J. and Oshika, T. 2005. JNK inhibitory kinase is upregulated in retinal ganglion cells after axotomy and enhances BimEL expression level in neuronal cells. *J. Neurochem.* 95: 526-536.

CHROMOSOMAL LOCATION

Genetic locus: Taok3 (mouse) mapping to 5 F.

PRODUCT

Taok3 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Taok3 shRNA Plasmid (m): sc-154067-SH and Taok3 shRNA (m) Lentiviral Particles: sc-154067-V as alternate gene silencing products.

For independent verification of Taok3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154067A, sc-154067B and sc-154067C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Taok3 siRNA (m) is recommended for the inhibition of Taok3 expression in mouse 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 μ M in 66 μ l. 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 Taok3 gene expression knockdown using RT-PCR Primer: Taok3 (m)-PR: sc-154067-PR (20 μ l, 421 bp). 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.

PROTOCOLS

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