SANTA CRUZ BIOTECHNOLOGY, INC.

MAP3K6 siRNA (m): sc-62599

BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also designated MAP kinase kinase kinases, MKKKs, MAP3Ks or MEKKs) phosphorylate and thereby activate the MEKs (also called MAP kinase kinases or MKKs), including ERK, JNK and p38. These activated MEKs in turn phosphorylate and activate the MAP kinases. The MEK kinases include Raf-1, Raf-B, Mos, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4, ASK 1 (MEK kinase-5) and MAP3K6 (MEK kinase-6). MAP3K6, also called ASK 2, activates the JNK kinase pathway but not the ERK or p38 kinase pathways. It is activated by phosphorylation on Thr 806 and is only stable and catalytically active when coupled with ASK 1. Three isoforms exist for MAP3K6 due to alternative splicing. Isoform 1 represents the full length protein. Isoform 2 lacks the amino acid sequences 1-277 and 1075-1288 and contains a unique sequence between amino acid residues 1065-1074. Isoform 3 lacks the amino acid sequence 161-168.

REFERENCES

1. Wang, X.S., et al. 1999. MAPKKK6, a novel mitogen-activated protein kinase kinase kinase, that associates with MAPKKK5. Biochem. Biophys. Res. Commun. 253: 33-37.
2. Maki, H. 2003. Genomic organization and promoter analysis of mouse apoptosis signal-regulating kinase 2 (ASK 2). Kokubyo Gakkai Zasshi 70: 9-18.
3. Ryan, J.C., et al. 2005. Acute phase gene expression in mice exposed to the marine neurotoxin domoic acid. Neuroscience 136: 1121-1132.
4. Yan, M., et al. 2006. Nephro-toxicity study of total rhubarb anthraquinones on Sprague Dawley rats using DNA microarrays. J. Ethnopharmacol. 107: 308-311.
5. Takeda, K., et al. 2007. Apoptosis signal-regulating kinase (ASK) 2 functions as a mitogen-activated protein kinase kinase kinase in a heteromeric complex with ASK 1. J. Biol. Chem. 282: 7522-7531.

CHROMOSOMAL LOCATION

Genetic locus: Map3k6 (mouse) mapping to 4 D2.3.

PRODUCT

MAP3K6 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAP3K6 shRNA Plasmid (m): sc-62599-SH and MAP3K6 shRNA (m) Lentiviral Particles: sc-62599-V as alternate gene silencing products.

For independent verification of MAP3K6 (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-62599A, sc-62599B and sc-62599C.

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

MAP3K6 siRNA (m) is recommended for the inhibition of MAP3K6 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 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 MAP3K6 gene expression knockdown using RT-PCR Primer: MAP3K6 (m)-PR: sc-62599-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.