SANTA CRUZ BIOTECHNOLOGY, INC.

MEKK 15 siRNA (h): sc-75771

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. MEKK 15 (MAPK/ERK kinase kinase 15), also known as MAP3K15 (mitogen-activated protein kinase kinase kinase 15), is a 1,313 amino acid protein that contains one protein kinase domain and belongs to the MAP3K subfamily of Ser/Thr protein kinases. Using magnesium as a cofactor, MEKK 15 functions to catalyze the ATP-dependent phosphorylation of target proteins and is thought to act as a component of specific protein kinase signaling cascades. The gene encoding MEKK 15 maps to human chromosome X, which contains nearly 153 million base pairs and houses over 1,000 genes.

REFERENCES

1. Bairoch, A. and Claverie, J.M. 1988. Sequence patterns in protein kinases. Nature 331: 22.
2. Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. Science 241: 42-52.
3. Hanks, S.K. and Quinn, A.M. 1991. Protein kinase catalytic domain sequence database: identification of conserved features of primary structure and classification of family members. Meth. Enzymol. 200: 38-62.
4. Hanes, J., et al. 1994. Characterization by cDNA cloning of two new human protein kinases. Evidence by sequence comparison of a new family of mammalian protein kinases. J. Mol. Biol. 244: 665-672.
5. Dinulos, M.B., et al. 1996. A new region of conservation is defined between human and mouse X chromosomes. Genomics 35: 244-247.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K15 (human) mapping to Xp22.12.

PRODUCT

MEKK 15 siRNA (h) 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 MEKK 15 shRNA Plasmid (h): sc-75771-SH and MEKK 15 shRNA (h) Lentiviral Particles: sc-75771-V as alternate gene silencing products.

For independent verification of MEKK 15 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75771A, sc-75771B and sc-75771C.

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.

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

MEKK 15 siRNA (h) is recommended for the inhibition of MEKK 15 expression in human 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.

GENE EXPRESSION MONITORING

MEKK 15 (D-6): sc-514606 is recommended as a control antibody for monitoring of MEKK 15 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MEKK 15 gene expression knockdown using RT-PCR Primer: MEKK 15 (h)-PR: sc-75771-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.