SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-1 siRNA (h): sc-29396

BACKGROUND

A family of protein kinases located upstream of the MAP kinases and responsible for their activation has been identified. The prototype member of this family, designated MAP kinase kinase, or MEK-1, specifically phosphorylates the MAP kinase regulatory threonine and tyrosine residues present in the Thr-Glu-Tyr motif of ERK. A second MEK family member, MEK-2, resembles MEK-1 in its substrate specificity. MEK-3 (or MKK-3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or MKK-4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK 5, whereas MEK-6 phosphorylates p38 and p38β. MEK-7 (or MKK-7) phosphorylates and activates the JNK signal transduction pathway.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K1 (human) mapping to 15q22.31.

PRODUCT

MEK-1 siRNA (h) is a target-specific 19-25 nt siRNA 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 MEK-1 shRNA Plasmid (h): sc-29396-SH and MEK-1 shRNA (h) Lentiviral Particles: sc-29396-V as alternate gene silencing 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

MEK-1 siRNA (h) is recommended for the inhibition of MEK-1 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.

PROTOCOLS

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

GENE EXPRESSION MONITORING

MEK-1 (H-8): sc-6250 is recommended as a control antibody for monitoring of MEK-1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MEK-1 gene expression knockdown using RT-PCR Primer: MEK-1 (h)-PR: sc-29396-PR (20 µl, 542 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Joo, J.H., et al. 2007. Farnesol-induced apoptosis in human lung carcinoma cells is coupled to the endoplasmic reticulum stress response. Cancer Res. 67: 7929-7936.
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3. Nakashima, T., et al. 2010. Down-regulation of mir-424 contributes to the abnormal angiogenesis via MEK1 and cyclin E1 in senile hemangioma: its implications to therapy. PLoS ONE 5: e14334.
4. Krishnan, G. and Chatterjee, N. 2012. Endocannabinoids alleviate proinflammatory conditions by modulating innate immune response in muller glia during inflammation. Glia 60: 1629-1645.
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8. Krishnan, G. and Chatterjee, N. 2015. Differential immune mechanism to HIV-1 Tat variants and its regulation by AEA [corrected]. Sci. Rep. 5: 9887.
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10. Qi, W., et al. 2017. SHP-1 activation inhibits vascular smooth muscle cell proliferation and intimal hyperplasia in a rodent model of Insulin resistance and diabetes. Diabetologia 60: 585-596.
11. Simpkins, F., et al. 2018. Dual Src and MEK inhibition decreases ovarian cancer growth and targets tumor initiating stem-like cells. Clin. Cancer Res. 24: 4874-4886.
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RESEARCH USE

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