SANTA CRUZ BIOTECHNOLOGY, INC.

MKS1 siRNA (h): sc-93569

BACKGROUND

MAPK (mitogen-activated protein kinase) is a serine/threonine kinase activated by extracellular stimuli called mitogens. MAPKs also regulate various cellular activities, such as gene expression, mitosis, differentiation and cell survival. MKS1 (MAP kinase substrate 1), a 222 amino acid protein with an isoelectric point of 6.0, is phosphorylated by a MAPK known as MAPK4 (MAP kinase 4). MAPK4 is involved in regulating plant defenses against pathogens by interacting with WRKY transcriptional regulators. MKS1 may contribute to MPK4-regulated defense activation by binding the kinase to WRKY transcription factors. MKS1 is required for full salicylic acid-dependent plant disease resistance, indicating that MKS1 family members may be involved in transcriptional regulation in response to pathogens.

REFERENCES

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2. Terret, M.E., et al. 2003. DOC1R: a MAP kinase substrate that control microtubule organi II mouse oocytes. Development 130: 5169-5177.
3. Weiler, M.C., et al. 1997. CR16, a novel proline-rich protein expressed in rat brain neurons, binds to SH3 domains and is a MAP kinase substrate. J. Mol. Neurosci. 7: 203-215.
4. MAPK Group. 2002. Mitogen-activated protein kinase cascades in plants: a new nomenclature. Trends Plant Sci. 7: 301-308.
5. Edmunds, J.W. and Mahadevan, L.C. 2004. MAP kinases as structural adaptors and en complexes. J. Cell Sci. 117: 3715-3723.
6. Andreasson, E., et al. 2005. The MAP kinase substrate MKS1 is a regulator of plant defense responses. EMBO J. 24: 2579-2589.
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CHROMOSOMAL LOCATION

Genetic locus: MKS1 (human) mapping to 17q22.

PRODUCT

MKS1 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 MKS1 shRNA Plasmid (h): sc-93569-SH and MKS1 shRNA (h) Lentiviral Particles: sc-93569-V as alternate gene silencing products.

For independent verification of MKS1 (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-93569A, sc-93569B and sc-93569C.

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

MKS1 siRNA (h) is recommended for the inhibition of MKS1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MKS1 gene expression knockdown using RT-PCR Primer: MKS1 (h)-PR: sc-93569-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.