



MARK2 siRNA (m): sc-45794

BACKGROUND

Microtubule affinity-regulating kinase 2 (MARK2), also known as EMK1 (ELKL motif kinase 1) or Par1b, is a 788 amino acid protein that is a member of the protein kinase superfamily, MARK subfamily. Highly expressed in heart, brain, skeletal muscle and pancreas, MARK2 is essential for the asymmetric development of membrane domains around polarized epithelial cells. Activation of MARK2 by phosphorylation on Thr 208 allows the protein to modulate the building of a columnar versus a hepatic epithelial cell. MARK2 contains one KA1 (kinase-associated) domain, one protein kinase domain and one UBA domain. MARK2 is expressed as 14 isoforms produced by alternative splicing events. Some of these isoforms may function in graft rejection.

REFERENCES

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7. Depasquale, I. and Thompson, W.D. 2008. Prognosis in human melanoma: PAR-1 expression is superior to other coagulation components and VEGF. *Histopathology* 52: 500-509.
8. Watkins, J.L., et al. 2008. Phosphorylation of the Par-1 polarity kinase by protein kinase D regulates 14-3-3 binding and membrane association. *Proc. Natl. Acad. Sci. USA* 105: 18378-18383.
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CHROMOSOMAL LOCATION

Genetic locus: Mark2 (mouse) mapping to 19 A.

RESEARCH USE

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

PRODUCT

MARK2 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 MARK2 shRNA Plasmid (m): sc-45794-SH and MARK2 shRNA (m) Lentiviral Particles: sc-45794-V as alternate gene silencing products.

For independent verification of MARK2 (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-45794A, sc-45794B and sc-45794C.

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

MARK2 siRNA (m) is recommended for the inhibition of MARK2 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 MARK2 gene expression knockdown using RT-PCR Primer: MARK2 (m)-PR: sc-45794-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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