

CaM II siRNA (h): sc-105177

BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. CaM directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases. It is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turn over and smooth muscle contraction. A member of the calmodulin family, CaM II (calmodulin 2 (phosphorylase kinase, delta)), also known as CALM2, PHKD2 or CAMB, is a 149 amino acid cytoplasmic protein containing four functional calcium-binding sites and four EF-hand domains. Ubiquitously expressed, CaM II is found at highest levels in brain followed by kidney, heart, lung, liver, skeletal muscle and placenta where its activity is decreased upon phosphorylation and ubiquitination.

REFERENCES

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4. Zhang, M. and Yuan, T. 1998. Molecular mechanisms of calmodulin's functional versatility. *Biochem. Cell Biol.* 76: 313-323.
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CHROMOSOMAL LOCATION

Genetic locus: CALM2 (human) mapping to 2p21.

PRODUCT

CaM II 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CaM II shRNA Plasmid (h): sc-105177-SH and CaM II shRNA (h) Lentiviral Particles: sc-105177-V as alternate gene silencing products.

For independent verification of CaM II (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-105177A, sc-105177B and sc-105177C.

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

CaM II siRNA (h) is recommended for the inhibition of CaM II 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 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 CaM II gene expression knockdown using RT-PCR Primer: CaM II (h)-PR: sc-105177-PR (20 μ l). 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.

PROTOCOLS

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