

CALML3 siRNA (h): sc-105176

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. CaM is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turnover and smooth muscle contraction. CALML3 (calmodulin-like protein 3), also known as CLP, is a 149 amino acid protein that contains four EF-hand domains and shares functional similarity with CaM. Expressed in epidermal, mammary, prostate and cervical tissues, CALML3 is thought to play a role in calcium regulation and signaling events throughout and cell and may, in fact, compete with CaM by binding to different cellular substrates.

REFERENCES

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3. Durussel, I., et al. 1993. Cation binding and conformation of human calmodulin-like protein. *Biochemistry* 32: 6089-6094.
4. Berchtold, M.W., et al. 1993. Localization of the intronless gene coding for calmodulin-like protein CLP to human chromosome 10p13-ter. *Hum. Genet.* 90: 496-500.
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CHROMOSOMAL LOCATION

Genetic locus: CALML3 (human) mapping to 10p15.1.

PRODUCT

CALML3 siRNA (h) is a pool of 2 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 CALML3 shRNA Plasmid (h): sc-105176-SH and CALML3 shRNA (h) Lentiviral Particles: sc-105176-V as alternate gene silencing products.

For independent verification of CALML3 (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-105176A and sc-105176B.

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

CALML3 siRNA (h) is recommended for the inhibition of CALML3 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.

GENE EXPRESSION MONITORING

CaM (G-3): sc-137079 is recommended as a control antibody for monitoring of CALML3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CALML3 gene expression knockdown using RT-PCR Primer: CALML3 (h)-PR: sc-105176-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.