SANTA CRUZ BIOTECHNOLOGY, INC.

CALML6 siRNA (h): sc-72781

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), a universal calcium sensor. CaM directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases and is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turnover and smooth muscle contraction. CALML6 (calmodulin-like 6), also known as CAGLP or CALGP, is a 181 amino acid protein that contains 4 EF-hand domains and shares functional similarity with CaM. Localized to both the nucleus and the cytoplasm, CALML6 is expressed in heart, prostate, ovary, thymus and bone marrow where it may regulate calcium-related events.

REFERENCES

1. Saimi, Y., et al. 1994. Ion channel regulation by calmodulin binding. FEBS Lett. 350: 155-158.
2. Crivici, A., et al. 1995. Molecular and structural basis of target recognition by calmodulin. Annu. Rev. Biophys. Biomol. Struct. 24: 85-116.
3. Takuwa, N., et al. 1995. Calcium, calmodulin and cell cycle progression. Cell. Signal. 7: 93-104.
4. Chen, S., et al. 2004. Cloning and characterization of human CAGLP gene encoding a novel EF-hand protein. DNA Seq. 15: 365-368.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610171. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Gifford, J.L., et al. 2007. Structures and metal-ion-binding properties of the Ca^{2+}-binding helix-loop-helix EF-hand motifs. Biochem. J. 405: 199-221.
7. Swulius, M.T., et al. 2008. Ca^{2+}/calmodulin-dependent protein kinases. Cell. Mol. Life Sci. 65: 2637-2657.

CHROMOSOMAL LOCATION

Genetic locus: CALML6 (human) mapping to 1p36.33.

PRODUCT

CALML6 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 CALML6 shRNA Plasmid (h): sc-72781-SH and CALML6 shRNA (h) Lentiviral Particles: sc-72781-V as alternate gene silencing products.

For independent verification of CALML6 (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-72781A, sc-72781B and sc-72781C.

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

CALML6 siRNA (h) is recommended for the inhibition of CALML6 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 CALML6 gene expression knockdown using RT-PCR Primer: CALML6 (h)-PR: sc-72781-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.