



## CaM I siRNA (m): sc-29897

### 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 calmodulin is an acidic protein, 148 amino acids in length, with four helix-loop-helix calcium binding domains. Interestingly, calmodulin has been shown to associate with the carboxy terminus of the dystrophin gene product, implying that it may regulate its activity.

### REFERENCES

1. Vogel, H.J. 1994. The Merck Frosst Award Lecture 1994. Calmodulin: a versatile calcium mediator protein. *Biochem. Cell Biol.* 72: 357-376.
2. Nairn, A.C., et al. 1994. Calcium/calmodulin-dependent protein kinases. *Semin. Cancer Biol.* 5: 295-303.
3. Saimi, Y., et al. 1994. Ion channel regulation by calmodulin binding. *FEBS Lett.* 350: 155-158.
4. Crivici, A., et al. 1995. Molecular and structural basis of target recognition by calmodulin. *Annu. Rev. Biophys. Biomol. Struct.* 24: 85-116.
5. Tokiwa, N., et al. 1995. Calcium, calmodulin and cell cycle progression. *Cell. Signal.* 7: 93-104.
6. Reiling, N., et al. 1996. Nitric oxide synthase: expression of the endothelial,  $Ca^{2+}$ /calmodulin-dependent isoform in human B and T lymphocytes. *Eur. J. Immunol.* 26: 511-516.
7. Anderson, J.T., et al. 1996.  $Ca^{2+}$ -calmodulin binds to the carboxyl-terminal domain of dystrophin. *J. Biol. Chem.* 271: 6605-6610.

### CHROMOSOMAL LOCATION

Genetic locus: *Calm1* (mouse) mapping to 12 E.

### PRODUCT

CaM I 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CaM I shRNA Plasmid (m): sc-29897-SH and CaM I shRNA (m) Lentiviral Particles: sc-29897-V as alternate gene silencing products.

For independent verification of CaM I (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-29897A, sc-29897B and sc-29897C.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

CaM I shRNA Plasmid (m) is recommended for the inhibition of CaM I 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  $\mu$ M in 66  $\mu$ 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 I gene expression knockdown using RT-PCR Primer: CaM I (m)-PR: sc-29897-PR (20  $\mu$ l, 416 bp). 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.