



# MARCKS siRNA (canine): sc-72279

## BACKGROUND

Myristoylated alanine-rich protein kinase C substrate (MARCKS), also designated 80K or 80K-L, has been identified as a major cellular substrate for protein kinase C. Human MARCKS is a 332 amino acid protein. The plasma membrane bound protein dissociates from the membrane upon phosphorylation by various PKC isoforms. In NIH/3T3 fibroblasts, PKC  $\alpha$  and PKC  $\epsilon$ , but not PKC  $\delta$ , are responsible for MARCKS phosphorylation. MARCKS has been found to bind Calmodulin, Actin and Synapsin and is a filamentous (F) Actin crosslinking protein.

## REFERENCES

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2. Sakai, K., et al. 1989. Isolation of cDNAs encoding a substrate for protein kinase C: nucleotide sequence and chromosomal mapping of the gene for a human 80K protein. *Genomics* 5: 309-315.
3. Hartwig, J.H., et al. 1992. MARCKS is an actin filament crosslinking protein regulated by protein kinase C and calcium-calmodulin. *Nature* 356: 618-622.
4. Herget, T., et al. 1992. Relationship between the major protein kinase C substrates acidic 80-kDa protein-kinase-C substrate (80K) and myristoylated alanine-rich C-kinase substrate (MARCKS). Members of a gene family or equivalent genes in different species. *Eur. J. Biochem.* 209: 7-14.
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6. Allen, L.A., et al. 1995. Protein kinase C regulates MARCKS cycling between the plasma membrane and lysosomes in fibroblasts. *EMBO J.* 14: 1109-1120.
7. Uberall, F., et al. 1997. Conventional PKC- $\alpha$ , novel PKC- $\epsilon$  and PKC- $\theta$ , but not atypical PKC- $\lambda$  are MARCKS kinases in intact NIH 3T3 fibroblasts. *J. Biol. Chem.* 272: 4072-4078.

## CHROMOSOMAL LOCATION

Genetic locus: MARCKS (canine) mapping to 12.

## PRODUCT

MARCKS siRNA (canine) 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 MARCKS shRNA Plasmid (canine): sc-72279-SH and MARCKS shRNA (canine) Lentiviral Particles: sc-72279-V as alternate gene silencing products.

For independent verification of MARCKS (canine) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72279A, sc-72279B and sc-72279C.

## 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

MARCKS siRNA (canine) is recommended for the inhibition of MARCKS expression in canine 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 MARCKS gene expression knockdown using RT-PCR Primer: MARCKS (canine)-PR: sc-72279-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.