

## MARCKS (C-6): sc-518073



The Power to Question

## 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

1. Stumpo, D.J., et al. 1989. Molecular cloning, characterization, and expression of a cDNA encoding the "80- to 87-kDa" myristoylated alanine-rich C kinase substrate: a major cellular substrate for protein kinase C. *Proc. Natl. Acad. Sci. USA* 86: 4012-4016.
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.

## CHROMOSOMAL LOCATION

Genetic locus: MARCKS (human) mapping to 6q21; Marcks (mouse) mapping to 10 B1.

## SOURCE

MARCKS (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 309-332 near the C-terminus of MARCKS of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MARCKS (C-6) is available conjugated to agarose (sc-518073 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518073 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518073 PE), fluorescein (sc-518073 FITC), Alexa Fluor<sup>®</sup> 488 (sc-518073 AF488), Alexa Fluor<sup>®</sup> 546 (sc-518073 AF546), Alexa Fluor<sup>®</sup> 594 (sc-518073 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-518073 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-518073 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-518073 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

MARCKS (C-6) is recommended for detection of MARCKS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MARCKS siRNA (h): sc-35857, MARCKS siRNA (m): sc-35858, MARCKS shRNA Plasmid (h): sc-35857-SH, MARCKS shRNA Plasmid (m): sc-35858-SH, MARCKS shRNA (h) Lentiviral Particles: sc-35857-V and MARCKS shRNA (m) Lentiviral Particles: sc-35858-V.

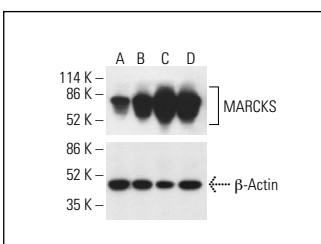
Molecular Weight of MARCKS: 80 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or HEK293T whole cell lysate: sc-45137.

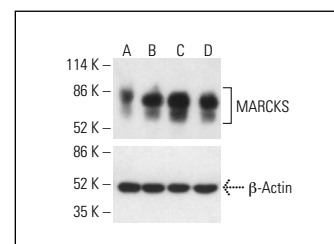
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



MARCKS (C-6): sc-518073. Western blot analysis of MARCKS expression in untreated (A) and chemically-treated (B, C, D) NIH/3T3 whole cell lysates.  $\beta$ -Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



MARCKS (C-6): sc-518073. Western blot analysis of MARCKS expression in untreated (A) and chemically-treated (B, C, D) HEK293T whole cell lysates. Detection reagent used: m-IgG<sub>2b</sub> BP-HRP: sc-542741.  $\beta$ -Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## SELECT PRODUCT CITATIONS

1. Yang, Y., et al. 2023. Circ-AMOTL1 enhances cardiac fibrosis through binding with EIF4A3 and stabilizing MARCKS expression in diabetic cardiomyopathy. *Cell. Signal.* 111: 110853.

## STORAGE

Store at 4<sup>°</sup> C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.