

Ordering Information

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Phone 352-372-7022

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HGNC name: MARCKS

RRID: [AB_2250333](https://eutils.ncbi.nlm.nih.gov/entrez/eutils/rrid.cgi?db=AB)

Immunogen: Full length recombinant human MARCKS purified from *E. coli*

Format: Serum with 5mM NaN₃

Storage: Shipped on ice. Store at 4°C. For long term storage, leave frozen at -20°C. Avoid freeze / thaw cycles.

Recommended dilutions:

Western blot: 1:10,000-1:20,000.

IF/ICC and IHC: 1:500-1:1,000.

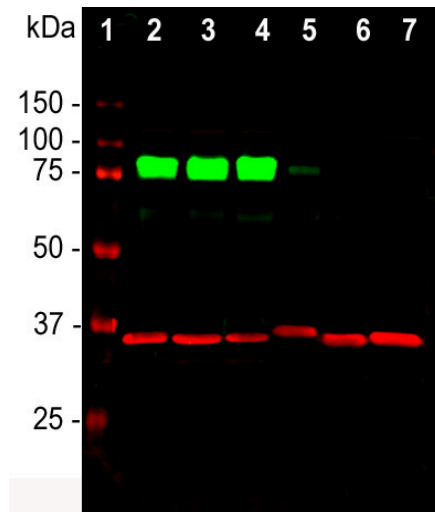
ABC: 1:5,000.

References:

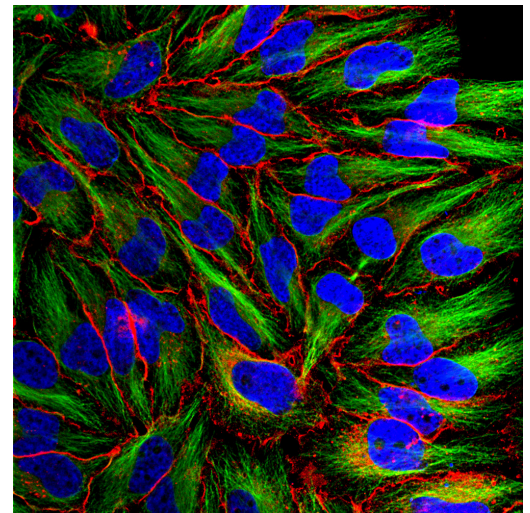
- Hirai, M. and Shimizu N. Purification of two distinct proteins of approximate Mr 80,000 from human epithelial cells and identification as proper substrates for protein kinase C. *Biochem J.* 270:583-9 (1990).
- Hartwig JH, Thelen M, Rosen A, Janmey PA, Nairn AC and Aderem A. MARCKS is an actin filament crosslinking protein regulated by protein kinase C and calcium-calmodulin. *Nature* 356: 618-622 (1992)
- Blackshear PJ. The MARCKS family of cellular protein kinase C substrates. *J. Biol. Chem.* 268: 1501-1504 (1993).
- Stumpo DJ, Bock CB, Tuttle JS and Blackshear PJ. MARCKS deficiency in mice leads to abnormal brain development and perinatal death. *Proc. Nat. Acad. Sci.* 92; 944-948 (1995)

Rabbit Polyclonal to MARCKS (Myristoylated alanine rich C Kinase substrate) RPCA-MARCKS

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC	Rabbit	IgG	80kDa by SDS-PAGE	Hu, Rt, Ms



Western blot analysis of cell line lysates probed simultaneously with rabbit pAb to MARCKS, RPCA-MARCKS, dilution 1:1,000, in green and mouse mAb to GAPDH, MCA-1D4, dilution 1:5,000 in red: [1] protein standard (red), [2] HEK293, [3] HeLa, [4] SH-SY5Y, [5] COS1, [6] NIH-3T3, [7] C6 cells. The strong band at 80kDa corresponds to MARCKS protein, detected only in the proteins of human origin. Slight reactivity is observed in the monkey cells [5], but no reactivity is seen on rodent cells. GAPDH antibody used as a loading control revealing a single band at ~37kDa in all preparations.



Immunofluorescent analysis of HeLa cells stained with rabbit pAb to MARCKS, RPCA-MARCKS-Hu, dilution 1:1,000 in red, and costained with mouse mAb to β -tubulin, MCA-1B12, dilution 1:10,000 in green. The blue is DAPI staining of nuclear DNA. RPCA-MARCKS recognizes protein expressed in the plasma membrane and cytoplasm, while the β -tubulin antibody stains microtubules.

Background: Myristoylated alanine rich C-kinase substrate, hence MARCKS, was originally discovered by as a major substrate for protein kinase C in the brain and other tissues, and was originally isolated from human epithelial cells (1). The MARCKS protein runs at about 80 kDa on SDS-PAGE gels, although the real molecular is much lower, at about 31.5 kDa. The reason for this is probably because the protein is extremely rich in acidic residues. Such proteins appear to bind less to SDS than the average protein, and so migrate in PAGE more slowly than the normal protein. MARCKS is a major protein of the brain, and is concentrated in the synapses of neurons. It appears to function in synaptic vesicle cycling and has been shown to bind to both actin and calmodulin *in vitro* (2). MARCKS belongs to a family of proteins with similar actin and calmodulin binding properties (3). Deletion of the MARCKS gene in mice results in embryonic brain defects and death (4).

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Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Bo—Cow Po—Pig Ho—Horse Ch—Chicken Dr—*D. rerio* Dm—*D. melanogaster* Ce—*C. elegans* Sc—*S. cerevisiae* Sa—*S. aureus* Ec—*E. coli*.