SANTA CRUZ BIOTECHNOLOGY, INC.

MARCKS (M-20): sc-6455

SANTA CRUZ BIOTECHNOLOGY

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 α and PKC ε, but not PKC δ, 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.

CHROMOSOMAL LOCATION

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

SOURCE

MARCKS (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MARCKS of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6455 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MARCKS (M-20) is recommended for detection of MARCKS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

MARCKS (M-20) is also recommended for detection of MARCKS in additional species, including canine, bovine and porcine.

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.

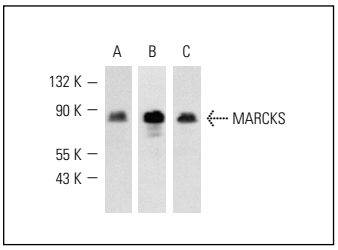
Molecular Weight of MARCKS: 80 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, RAW 264.7 whole cell lysate: sc-2211 or NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

DATA



Western blot analysis of MARCKS expression in SK-N-SH whole cell lysates (**A,B,C**). Antibodies tested include MARCKS (C-19): sc-6453 (**A**), MARCKS (N-19): sc-6454 (**B**) and MARCKS (M-20): sc-6455 (**C**).

SELECT PRODUCT CITATIONS

1. Larocca, M.C., et al. 2002. Protein kinase C-dependent inhibition of the lysosomal degradation of endocytosed proteins in rat hepatocytes. Cell. Signal. 14: 641-647.
2. Lang, B., et al. 2006. Expression of the human PAC-1 receptor leads to dose-dependent hydrocephalus-related abnormalities in mice. J. Clin. Invest. 116: 1924-1934.
3. Botto, L., et al. 2007. Changes in the composition of detergent-resistant membrane domains of cultured neurons following protein kinase C activation. J. Neurosci. Res. 85: 443-450.
4. Kisfalvi, K., et al. 2007. Insulin potentiates Ca^{2+} signaling and phosphatidylinositol 4,5-bisphosphate hydrolysis induced by G_q protein-coupled receptor agonists through an mTOR-dependent pathway. Endocrinology 148: 3246-3257.
5. Rombouts, K., et al. 2008. MARCKS is a downstream effector in platelet-derived growth factor-induced cell motility in activated human hepatic stellate cells. Exp. Cell Res. 314: 1444-1454.
6. Bulbarelli, A., et al. 2009. TrkA pathway activation induced by amyloid-β (Aβ). Mol. Cell. Neurosci. 40: 365-373.
7. Elson-Schwab, I., et al. 2010. MicroRNA-200 family members differentially regulate morphological plasticity and mode of melanoma cell invasion. PLoS ONE 5: e13176.

RESEARCH USE

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