SANTA CRUZ BIOTECHNOLOGY, INC.

MARCKS (JK-8): sc-100777

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.

CHROMOSOMAL LOCATION

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

SOURCE

MARCKS (JK-8) is a mouse monoclonal antibody raised against amino acids 2-66 of MARCKS of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MARCKS (JK-8) 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), immunohistochemistry (including paraffin-embedded sections) (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: MARCKS (h2): 293T Lysate: sc-177518, SK-N-SH cell lysate: sc-2410 or NIH/3T3 whole cell lysate: sc-2210.

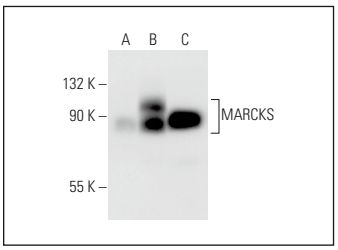
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

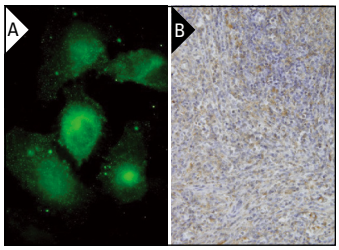
STORAGE

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

DATA



MARCKS (JK-8): sc-100777. Western blot analysis of MARCKS expression in non-transfected 293T: sc-117752 (**A**), human MARCKS transfected 293T: sc-177518 (**B**) and SK-N-SH (**C**) whole cell lysates.



MARCKS (JK-8): sc-100777. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human spleen tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Shi, J., et al. 2014. Myristoylated alanine-rich C kinase substrate coordinates native TRPC1 channel activation by phosphatidylinositol 4,5-bisphosphate and protein kinase C in vascular smooth muscle. FASEB J. 28: 244-255.
2. Fujita, K., et al. 2016. HMGB1, a pathogenic molecule that induces neurite degeneration via TLR4-MARCKS, is a potential therapeutic target for Alzheimer's disease. Sci. Rep. 6: 31895.
3. Liu, H., et al. 2017. MiR-34c-3p acts as a tumor suppressor gene in osteosarcoma by targeting MARCKS. Mol. Med. Rep. 15: 1204-1210.
4. Dao, C.V., et al. 2017. The MARCKS protein amount is differently regulated by Calpain during toxic effects of methylmercury between SH-SY5Y and EA.hy926 cells. J. Vet. Med. Sci. 79: 1931-1938.
5. Wang, C.N., et al. 2019. Targeting the phosphorylation site of myristoylated alanine-rich C kinase substrate alleviates symptoms in a murine model of steroid-resistant asthma. Br. J. Pharmacol. 176: 1122-1134.
6. Cilleros-Mañé, V., et al. 2021. M1 and M2 mAChRs activate PDK1 and regulate PKC βI and ε and the exocytotic apparatus at the NMJ. FASEB J. 35: e21724.
7. Tanaka, H., et al. 2021. HMGB1 signaling phosphorylates Ku70 and impairs DNA damage repair in Alzheimer's disease pathology. Commun. Biol. 4: 1175.
8. Long, X., et al. 2022. Obesity modulates cell-cell interactions during ovarian folliculogenesis. iScience 25: 103627.
9. Gholam, M.F., et al. 2023. Augmentation of cathepsin isoforms in diabetic db/db mouse kidneys is associated with an increase in renal MARCKS expression and proteolysis. Int. J. Mol. Sci. 24: 12484.

RESEARCH USE

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