SANTA CRUZ BIOTECHNOLOGY, INC.

MRCKβ (A-2): sc-390127

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein kinases comprise a large group of encoded factors that regulate cellular processes by catalyzing the transfer of a phosphate group to a hydroxyl acceptor in serine, threonine or tyrosine residues. Myotonic dystrophy kinase-related Cdc42-binding (DMPK-like) kinases-α and β (MRCKα, β) contain a cysteine-rich motif and a putative pleckstrin homology domain. MRCKs can phosphorylate nonmuscle Myosin light chain and influences Actin-Myosin contractility. MRCKα can phosphorylate and activate LIM kinases downstream of Cdc42, which leads to inactivation of ADF/Cofilin and to Actin cytoskeletal reorganization. MRCKα can also influence neurite outgrowth promoted by Cdc42 and Rac.

REFERENCES

1. Hunter, T. 1995. Protein kinases and phosphatases: the yin and yang of protein phosphorylation and signaling. Cell 80: 225-236.
2. Leung, T., et al. 1998. Myotonic dystrophy kinase-related Cdc42-binding kinase acts as a Cdc42 effector in promoting cytoskeletal reorganization. Mol. Cell. Biol. 18: 130-140.
3. Moncrieff, C.L., et al. 1999. Cloning and chromosomal localization of human Cdc42-binding protein kinase β. Genomics 57: 297-300.
4. Chen, X.Q., et al. 1999. The myotonic dystrophy kinase-related Cdc42-binding kinase is involved in the regulation of neurite outgrowth in PC12 cells. J. Biol. Chem. 274: 19901-19905.
5. Hunter, T. 2000. Signaling-2000 and beyond. Cell 100: 113-127.
6. Sumi, T., et al. 2001. Activation of LIM kinases by myotonic dystrophy kinase-related Cdc42-binding kinase α. J. Biol. Chem. 276: 23092-23096.

CHROMOSOMAL LOCATION

Genetic locus: CDC42BPB (human) mapping to 14q32.32; Cdc42bpb (mouse) mapping to 12 F1.

SOURCE

MRCKβ (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1637-1675 near the C-terminus of MRCKβ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390127 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

MRCKβ (A-2) is recommended for detection of MRCKβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for MRCKβ siRNA (h): sc-60064, MRCKβ siRNA (m): sc-60065, MRCKβ shRNA Plasmid (h): sc-60064-SH, MRCKβ shRNA Plasmid (m): sc-60065-SH, MRCKβ shRNA (h) Lentiviral Particles: sc-60064-V and MRCKβ shRNA (m) Lentiviral Particles: sc-60065-V.

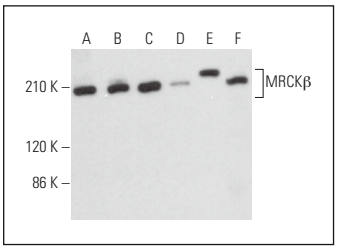
Molecular Weight of MRCKβ: 190 kDa.

Positive Controls: F9 cell lysate: sc-2245, COLO 320DM cell lysate: sc-2226 or NIH/3T3 whole cell lysate: sc-2210.

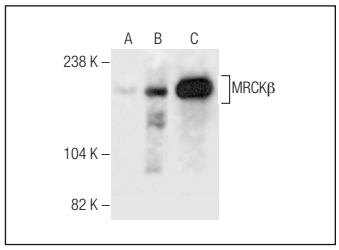
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MRCKβ (A-2): sc-390127. Western blot analysis of MRCKβ expression in c4 (**A**), Hep G2 (**B**), A549 (**C**), AMJ2-C8 (**D**) and Neuro-2A (**E**) whole cell lysates and rat testis tissue extract (**F**).



MRCKβ (A-2): sc-390127. Western blot analysis of MRCKβ expression in COLO 320DM (**A**), NIH/3T3 (**B**) and F9 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Baran, B., et al. 2023. MRCKα/β positively regulates Gli protein activity. Cell. Signal. 107: 110666.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.