

MRCK β (C-12): sc-374597

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 (MRCK- α , β) contain a cysteine-rich motif and a putative pleckstrin homology domain. MRCKs can phosphorylate nonmuscle myosin light chain and influences Actin-myosin contractility. MRCK- α can phosphorylate and activate LIM kinases downstream of Cdc42, which leads to inactivation of ADF/cofilin and to Actin cytoskeletal reorganization. MRCK- α can also influence neurite outgrowth promoted by Cdc42 and Rac.

REFERENCES

- Hunter, T. 1995. Protein kinases and phosphatases: the yin and yang of protein phosphorylation and signaling. *Cell* 80: 225-236.
- 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.
- Moncrieff, C.L., et al. 1999. Cloning and chromosomal localization of human Cdc42-binding protein kinase β . *Genomics* 57: 297-300.
- 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.
- Hunter, T. 2000. Signaling—2000 and beyond. *Cell* 100: 113-127.
- 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

MRCK β (C-12) is a mouse monoclonal antibody raised against amino acids 916-1040 mapping within an internal region of MRCK β of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRCK β (C-12) is available conjugated to agarose (sc-374597 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374597 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374597 PE), fluorescein (sc-374597 FITC), Alexa Fluor[®] 488 (sc-374597 AF488), Alexa Fluor[®] 546 (sc-374597 AF546), Alexa Fluor[®] 594 (sc-374597 AF594) or Alexa Fluor[®] 647 (sc-374597 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374597 AF680) or Alexa Fluor[®] 790 (sc-374597 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

MRCK β (C-12) is recommended for detection of MRCK β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 MRCK β siRNA (h): sc-60064, MRCK β siRNA (m): sc-60065, MRCK β shRNA Plasmid (h): sc-60064-SH, MRCK β shRNA Plasmid (m): sc-60065-SH, MRCK β shRNA (h) Lentiviral Particles: sc-60064-V and MRCK β shRNA (m) Lentiviral Particles: sc-60065-V.

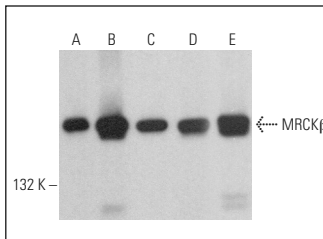
Molecular Weight of MRCK β : 190 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, NTERA-2 cl.D1 whole cell lysate: sc-364181 or SW480 cell lysate: sc-2219.

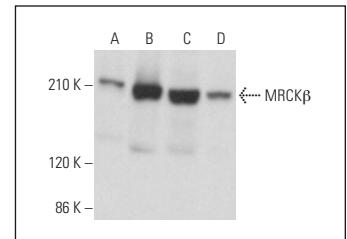
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



MRCK β (C-12): sc-374597. Western blot analysis of MRCK β expression in 3T3-L1 (A), NIH/3T3 (B), F9 (C), NTERA-2 cl.D1 (D) and A549 (E) whole cell lysates.



MRCK β (C-12): sc-374597. Western blot analysis of MRCK β expression in C3H/10T1/2 (A), SW480 (B), WI-38 (C) and Caco-2 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Ge, J., et al. 2018. RhoA, Rac1 and Cdc42 differentially regulate α SMA and collagen I expression in mesenchymal stem cells. *J. Biol. Chem.* 293: 9358-9369.
- Kwa, M.Q., et al. 2021. MRCK α is dispensable for breast cancer development in the MMTV-PyMT model. *Cells* 10: 942.

STORAGE

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

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