

MRCK β (Y-2D13): sc-134392

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., Chen, X.Q., Tan, I., Manser, E. and Lim, L. 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., Bailey, M.E., Morrison, N. and Johnson, K.J. 1999. Cloning and chromosomal localization of human Cdc42-binding protein kinase β . *Genomics* 57: 297-300.
- Chen, X.Q., Tan, I., Leung, T. and Lim, L. 1999. The myotonic dystrophy kinase-related Cdc42-binding kinase is involved in the regulation of neurite outgrowth in PC-12 cells. *J. Biol. Chem.* 274: 19901-19905.
- Hunter, T. 2000. Signaling—2000 and beyond. *Cell* 100: 113-127.
- Sumi, T., Matsumoto, K., Shibuya, A. and Nakamura, T. 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.

SOURCE

MRCK β (Y-2D13) is a mouse monoclonal antibody raised against recombinant MRCK β protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

MRCK β (Y-2D13) is recommended for detection of MRCK β of human origin by Western Blotting (starting dilution 1:200, 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), 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 MRCK β siRNA (h): sc-60064, MRCK β shRNA Plasmid (h): sc-60064-SH and MRCK β shRNA (h) Lentiviral Particles: sc-60064-V.

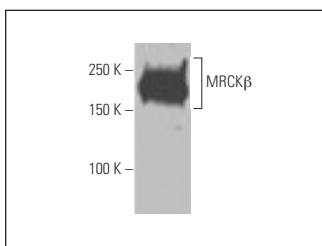
Molecular Weight of MRCK β : 213 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

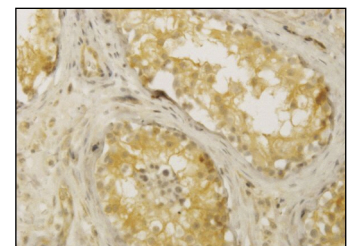
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MRCK β (Y-2D13): sc-134392. Western blot analysis of MRCK β expression in HeLa whole cell lysate.



MRCK β (Y-2D13): sc-134392. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing cytoplasmic localization.

RESEARCH USE

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