

# MRCK $\alpha$ (41): sc-136356

## 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  $\alpha$  and  $\beta$  (MRCK $\alpha$ ,  $\beta$ ) contain a cysteine-rich motif and a putative pleckstrin homology domain. MRCKs can phosphorylate nonmuscle Myosin light chain and influence Actin-Myosin contractility. MRCK $\alpha$  can phosphorylate and activate LIM kinases downstream of Cdc42, which leads to inactivation of ADF/Cofilin and Actin cytoskeletal reorganization. MRCK $\alpha$  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.
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- Moncrieff, C.L., Bailey, M.E., Morrison, N. and Johnson, K.J. 1999. Cloning and chromosomal localization of human Cdc42-binding protein kinase  $\beta$ . *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  $\alpha$ . *J. Biol. Chem.* 276: 23092-23096.

## CHROMOSOMAL LOCATION

Genetic locus: Cdc42bpa (mouse) mapping to 1 H4.

## SOURCE

MRCK $\alpha$  (41) is a mouse monoclonal antibody raised against amino acids 863-973 of MRCK $\alpha$  of origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml 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](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

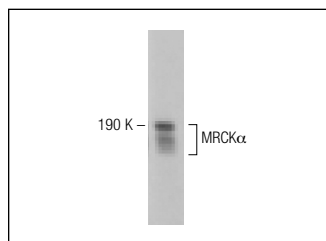
MRCK $\alpha$  (41) is recommended for detection of MRCK $\alpha$  of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for MRCK $\alpha$  siRNA (m): sc-60059, MRCK $\alpha$  shRNA Plasmid (m): sc-60059-SH and MRCK $\alpha$  shRNA (m) Lentiviral Particles: sc-60059-V.

Molecular Weight of MRCK $\alpha$ : 190 kDa.

Positive Controls: rat brain extract: sc-2392.

## DATA



MRCK $\alpha$  (41): sc-136356. Western blot analysis of MRCK $\alpha$  expression in rat brain tissue extract.

## RESEARCH USE

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