SANTA CRUZ BIOTECHNOLOGY, INC.

MRCKα (E-20): sc-15295

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 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., 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.
3. 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.
4. 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 PC12 cells. J. Biol. Chem. 274: 19901-19905.
5. Hunter, T. 2000. Signaling—2000 and beyond. Cell 100: 113-127.
6. 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: CDC42BPA (human) mapping to 1q42.13; Cdc42b (mouse) mapping to 1 H4.

SOURCE

MRCKα (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MRCKα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15295 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

MRCKα (E-20) is recommended for detection of MRCKα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MRCKα (E-20) is also recommended for detection of MRCKα in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MRCKα siRNA (h): sc-60058, MRCKα siRNA (m): sc-60059, MRCKα shRNA Plasmid (h): sc-60058-SH, MRCKα shRNA Plasmid (m): sc-60059-SH, MRCKα shRNA (h) Lentiviral Particles: sc-60058-V and MRCKα shRNA (m) Lentiviral Particles: sc-60059-V.

Molecular Weight of MRCKα: 190 kDa.

Positive Controls: rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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