

MRCK γ (P-20): sc-324138

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. MRCK γ (serine/threonine-protein kinase MRCK γ), also known as CDC42BPG (CDC42 binding protein kinase γ (DMPK-like)), myotonic dystrophy protein kinase-like α , DMPK2, HSMDPKIN or KAPPA-200, is a 1,551 amino acid cytoplasmic protein belonging to the protein kinase superfamily. Expressed in skeletal muscle and heart, MRCK γ exists as both a homodimer and homotetramer. MRCK γ may function as a downstream effector of CDC42 in cytoskeletal reorganization, and is known to regulate the phosphorylation of MYPT1 and MYL2, which is required for actomyosin contractility in cell invasion. MRCK γ binds magnesium as a cofactor and strongly associates with GTP-bound CDC42. The gene encoding MRCK γ maps to human chromosome 11q13.1.

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.
- Nakamura, N., et al. 2000. Phosphorylation of ERM proteins at filopodia induced by Cdc42. *Genes Cells* 5: 571-581.
- Ng, Y., et al. 2004. Expression of the human myotonic dystrophy kinase-related Cdc42-binding kinase γ is regulated by promoter DNA methylation and Sp1 binding. *J. Biol. Chem.* 279: 34156-34164.
- Garcia, P., et al. 2006. Molecular insights into the self-assembly mechanism of dystrophin myotonic kinase. *FASEB J.* 20: 1142-1151.
- Choi, S.H., et al. 2008. Characterization of the interaction of phorbol esters with the C1 domain of MRCK (myotonic dystrophy kinase-related Cdc42 binding kinase) α/β . *J. Biol. Chem.* 283: 10543-10549.

CHROMOSOMAL LOCATION

Genetic locus: CDC42BPG (human) mapping to 11q13.1.

SOURCE

MRCK γ (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MRCK γ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-324138 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MRCK γ (P-20) is recommended for detection of MRCK γ of 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); non cross-reactive with MRCK α or MRCK β .

Suitable for use as control antibody for MRCK siRNA (h): sc-96278, MRCK shRNA Plasmid (h): sc-96278-SH and MRCK shRNA (h) Lentiviral Particles: sc-96278-V.

Molecular Weight of MRCK γ : 172 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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