

MST-4 (9): sc-136474

BACKGROUND

Sterile-20 (Ste20) is a serine/threonine kinase in *Saccharomyces cerevisiae* that is involved in relaying signals from G protein-coupled receptors to cytosolic MAP kinase cascades. Mammalian protein kinases that display sequence similarity to Ste20 are divided into two groups, the PAK subfamily and the GCK subfamily. The PAK subfamily members contain a C-terminal catalytic domain and an N-terminal regulatory domain with a p21Rac/Cdc42-binding site, and these kinases can activate both p38 MAPK and JNK. The GCK subfamily members contain a C-terminal regulatory domain and an N-terminal catalytic domain and they have diverse roles in many pathways, including the activation of ERK, JNK, p38 MAPK and caspase-3. The mammalian Ste20-like kinases (MST kinases, also known as Ksr proteins) are members of the GCK subfamily. Ksr-1 and Ksr-2 (also known as MST-2 and MST-1, respectively) are both direct substrates of caspase-3 that accelerate caspase-3 activation. MST-3 is ubiquitously expressed in mammalian tissue and can phosphorylate exogenous substrates as well as itself. MST-4 is highly expressed in placenta, thymus and peripheral blood leukocytes, and it specifically activates ERK.

REFERENCES

1. Leberer, E., et al. 1992. The protein kinase homologue Ste20p is required to link the yeast pheromone response G protein β subunits to downstream signalling components. *EMBO J.* 11: 4815-4824.
2. Schinkmann, K. and Blenis, J. 1997. Cloning and characterization of a human Ste20-like protein kinase with unusual cofactor requirements. *J. Biol. Chem.* 272: 28695-28703.
3. Zhou, T.H., et al. 2000. Identification of a human brain-specific isoform of mammalian Ste20-like kinase-3 that is regulated by cAMP-dependent protein kinase. *J. Biol. Chem.* 275: 2513-2519.
4. Raitt, D.C., et al. 2000. Yeast Cdc42 GTPase and Ste20 PAK-like kinase regulate Sho1-dependent activation of the Hog1 MAPK pathway. *EMBO J.* 17: 4623-4631.
5. Lin, J.L., et al. 2001. MST-4, a new Ste20-related kinase that mediates cell growth and transformation via modulating ERK pathway. *Oncogene* 20: 6559-6569.
6. Lee, K.K., et al. 2001. MST, a physiological caspase substrate, highly sensitizes apoptosis both upstream and downstream of caspase activation. *J. Biol. Chem.* 276: 19276-19285.

CHROMOSOMAL LOCATION

Genetic locus: STK26 (human) mapping to Xq26.2; Stk26 (mouse) mapping to X A5.

SOURCE

MST-4 (9) is a mouse monoclonal antibody raised against amino acids 296-416 of MST-4 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.

APPLICATIONS

MST-4 (9) is recommended for detection of MST-4 of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MST-4 siRNA (h): sc-106257, MST-4 siRNA (m): sc-149664, MST-4 shRNA Plasmid (h): sc-106257-SH, MST-4 shRNA Plasmid (m): sc-149664-SH, MST-4 shRNA (h) Lentiviral Particles: sc-106257-V and MST-4 shRNA (m) Lentiviral Particles: sc-149664-V.

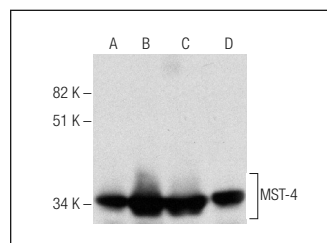
Molecular Weight of MST-4: 47 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or PC-3 cell lysate: sc-2220.

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, TBS Blotto A Blocking Reagent: sc-2333 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



MST-4 (9): sc-136474. Western blot analysis of MST-4 expression in PC-3 (A), Jurkat (B), K-562 (C) and Cos (D) whole cell lysates.

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. Not for resale.

PROTOCOLS

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