

MST-4 (E-13): sc-21567

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 p38MAPK 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

- Leberer, E., Dignard, D., Harcus, D., Thomas, E.Y. and Whiteway, M. 1992. The protein kinase homologue Ste20p is required to link the yeast pheromone response G protein β γ subunits to downstream signalling components. *EMBO J.* 11: 4815-4824.
- 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.
- Raitt, D., Posas, F. and Saito, H. 2000. Yeast Cdc42 GTPase and Ste20 PAK-like kinase regulate Sho1-dependent activation of the Hog1 MAPK pathway. *EMBO J.* 17: 4623-4631.
- Zhou, T.H., Ling, K., Guo, J., Zhou, H., Wu, Y.-L., Jing, Q., Ma, L. and Pei, G. 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.
- Lin, J.-L., Chen, H.-C., Fang, H.-I., Robinson, D., Kung, H.-J. and Shih, H.M. 2001. MST4, a new Ste20-related kinase that mediates cell growth and transformation via modulating ERK pathway. *Oncogene* 20: 6559-6569.
- Lee, K., Ohshima, T., Yajima, N., Tsubuki, S. and Yonehara, S. 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: MST4 (human) mapping to Xq26.2; 2610018G03Rik (mouse) mapping to X A5.

SOURCE

MST-4 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MST-4 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-21567 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MST-4 (E-13) is recommended for detection of MST-4 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

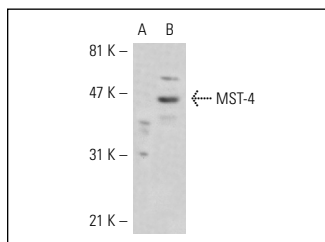
MST-4 (E-13) is also recommended for detection of MST-4 in additional species, including equine, canine, bovine and porcine.

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.

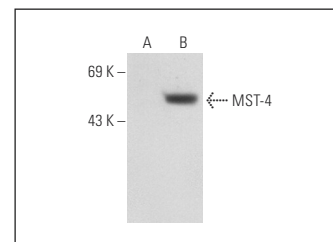
Molecular Weight of MST-4: 47 kDa.

Positive Controls: MST-4 (m2): 293T Lysate: sc-110154, PC-3 cell lysate: sc-2220 or MCF7 whole cell lysate: sc-2206.

DATA



MST-4 (E-13): sc-21567. Western blot analysis of MST-4 expression in non-transfected: sc-110760 (A) and mouse MST-4 transfected: sc-110717 (B) 293 whole cell lysates.



MST-4 (E-13): sc-21567. Western blot analysis of MST-4 expression in non-transfected: sc-117752 (A) and mouse MST-4 transfected: sc-110154 (B) 293T 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.

MONOS
Satisfaction
Guaranteed

Try **MST-4 (C-11): sc-376649** or **MST-4 (9): sc-136474**, our highly recommended monoclonal alternatives to MST-4 (E-13).