

MST-4 (C-11): sc-376649

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 $\beta\gamma$ 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.

CHROMOSOMAL LOCATION

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

SOURCE

MST-4 (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 307-339 near the C-terminus of MST-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MST-4 (C-11) is available conjugated to agarose (sc-376649 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376649 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376649 PE), fluorescein (sc-376649 FITC), Alexa Fluor[®] 488 (sc-376649 AF488), Alexa Fluor[®] 546 (sc-376649 AF546), Alexa Fluor[®] 594 (sc-376649 AF594) or Alexa Fluor[®] 647 (sc-376649 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376649 AF680) or Alexa Fluor[®] 790 (sc-376649 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376649 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

MST-4 (C-11) is recommended for detection of MST-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

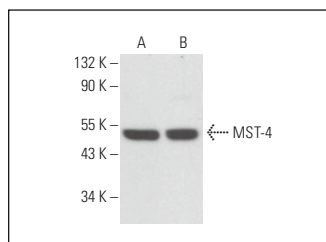
MST-4 (C-11) is also recommended for detection of MST-4 in additional species, including canine, bovine and porcine.

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.

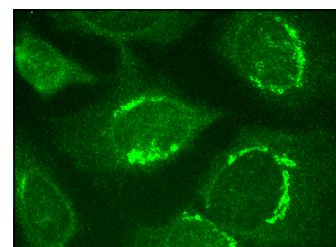
Molecular Weight of MST-4: 47 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, MCF7 whole cell lysate: sc-2206 or Jurkat whole cell lysate: sc-2204.

DATA



MST-4 (C-11): sc-376649. Western blot analysis of MST-4 expression in Jurkat (A) and MCF7 (B) whole cell lysates.



MST-4 (C-11): sc-376649. Immunofluorescence staining of methanol-fixed HeLa cells showing golgi apparatus localization.

SELECT PRODUCT CITATIONS

1. Mardakheh, F.K., et al. 2016. Rho binding to FAM65A regulates Golgi reorientation during cell migration. *J. Cell Sci.* 129: 4466-4479.
2. An, L., et al. 2020. MST4 kinase suppresses gastric tumorigenesis by limiting YAP activation via a non-canonical pathway. *J. Exp. Med.* 217: e20191817.
3. Lee, E.Y., et al. 2022. Glutamyl-prolyl-tRNA synthetase 1 coordinates early endosomal anti-inflammatory AKT signaling. *Nat. Commun.* 13: 6455.

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.

PROTOCOLS

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