

MST-3 (E-17): sc-21400

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 γ 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. Raitt, D., 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.

CHROMOSOMAL LOCATION

Genetic locus: STK24 (human) mapping to 13q32.2; Stk24 (mouse) mapping to 14 E5.

SOURCE

MST-3 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MST-3 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-21400 P, (100 μ g 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

MST-3 (E-17) is recommended for detection of MST-3 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-3 (E-17) is also recommended for detection of MST-3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MST-3 siRNA (h): sc-39251, MST-3 siRNA (m): sc-39252, MST-3 shRNA Plasmid (h): sc-39251-SH, MST-3 shRNA Plasmid (m): sc-39252-SH, MST-3 shRNA (h) Lentiviral Particles: sc-39251-V and MST-3 shRNA (m) Lentiviral Particles: sc-39252-V.

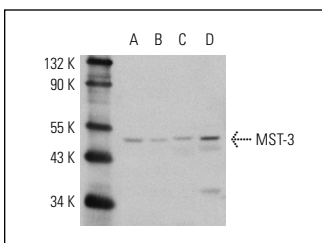
Molecular Weight of MST-3: 50/35 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, KNRK whole cell lysate: sc-2214 or A-431 whole cell lysate: sc-2201.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MST-3 (E-17): sc-21400. Western blot analysis of MST-3 expression in Jurkat (A), Jurkat + FAS (B), KNRK (C) and A-431 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fidalgo, M., et al. 2010. CCM3/PDCD10 stabilizes GCKIII proteins to promote Golgi assembly and cell orientation. *J. Cell Sci.* 123: 1274-1284.
2. Fidalgo, M., et al. 2012. Adaptor protein cerebral cavernous malformation 3 (CCM3) mediates phosphorylation of the cytoskeletal proteins ezrin/radixin/moesin by mammalian Ste20-4 to protect cells from oxidative stress. *J. Biol. Chem.* 287: 11556-11565.