

Krs-1 (N-19): sc-6212

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 Krs proteins, are members of the GCK subfamily. Krs-1 (MST-2) and Krs-2 (MST-1) 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., 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.
- Schinkmann, K., et al. 1997. Cloning and characterization of a human STE20-like protein kinase with unusual cofactor requirements. *J. Biol. Chem.* 272: 28695-28703.
- 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.
- 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.
- Lee, 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: STK3 (human) mapping to 8q22.2; Stk3 (mouse) mapping to 15 B3.1.

SOURCE

Krs-1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Krs-1 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-6212 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Krs-1 (N-19) is recommended for detection of Krs-1 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).

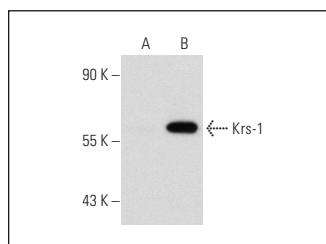
Krs-1 (N-19) is also recommended for detection of Krs-1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Krs-1 siRNA (h): sc-39247, Krs-1 siRNA (m): sc-39248, Krs-1 shRNA Plasmid (h): sc-39247-SH, Krs-1 shRNA Plasmid (m): sc-39248-SH, Krs-1 shRNA (h) Lentiviral Particles: sc-39247-V and Krs-1 shRNA (m) Lentiviral Particles: sc-39248-V.

Molecular Weight of Krs-1: 63 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, NIH/3T3 whole cell lysate: sc-2210 or Krs-1 (h): 293 Lysate: sc-111111.

DATA



Krs-1 (N-19): sc-6212. Western blot analysis of Krs-1 expression in non-transfected: sc-110760 (A) and human Krs-1 transfected: sc-111111 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Reszka, A.A., et al. 1999. Bisphosphonates act directly on the osteoclast to induce caspase cleavage of mst1 kinase during apoptosis. A link between inhibition of the mevalonate pathway and regulation of an apoptosis-promoting kinase. *J. Biol. Chem.* 274: 34967-34973.

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 **Krs-1 (87.K): sc-130405**, our highly recommended monoclonal alternative to Krs-1 (N-19).