

# KHS (D-4): sc-374071

## BACKGROUND

Several mammalian kinases have been identified with sequence similarity to the *Saccharomyces cerevisiae* serine/threonine kinase Ste20. Ste20 is involved in relaying signals from G protein-coupled receptors to cytosolic MAP kinase cascades, and it lies upstream of a MAP kinase kinase kinase. Mammalian Ste20-like kinases include KHS, GLK, NIK, YSK1, HPK1, Krs-1, Krs-2 and GC kinase. KHS (for kinase homologous to SPS1/Ste20) is a protein that is most closely related to GC kinase. The KHS kinase has been shown to activate a variety of substrates, including JNK, suggesting a role in stress response.

## REFERENCES

1. Leberer, E., Dignard, D., Harcus, D., Thomas, D.Y. and Whiteway, M. 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. Wu, C., Whiteway, M., Thomas, D.Y. and Leberer, E. 1995. Molecular characterization of Ste20p, a potential mitogen-activated protein or extracellular signal-regulated kinase kinase (MEK) kinase kinase from *Saccharomyces cerevisiae*. *J. Biol. Chem.* 270: 15984-15992.
3. Su, Y.C., Han, J., Xu, S., Cobb, M. and Skolnik, E.Y. 1997. NIK is a new Ste20-related kinase that binds NCK and MEK1 and activates the SAPK/JNK cascade via a conserved regulatory domain. *EMBO J.* 16: 1279-1290.
4. Diener, K., Wang, X.S., Chen, C., Meyer, C.F., Keesler, G., Zukowski, M., Tan, T.H. and Yao, Z. 1997. Activation of the c-Jun N-terminal kinase pathway by a novel protein kinase related to human germinal center kinase. *Proc. Natl. Acad. Sci. USA* 94: 9687-9692.
5. Tung, R.M. and Blenis, J. 1997. A novel human SPS1/Ste20 homologue, KHS, activates Jun N-terminal kinase. *Oncogene* 14: 653-659.

## CHROMOSOMAL LOCATION

Genetic locus: MAP4K5 (human) mapping to 14q21.3; Map4k5 (mouse) mapping to 12 C2.

## SOURCE

KHS (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of KHS of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374071 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

KHS (D-4) is recommended for detection of KHS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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).

KHS (D-4) is also recommended for detection of KHS in additional species, including canine.

Suitable for use as control antibody for KHS siRNA (h): sc-39245, KHS siRNA (m): sc-39246, KHS shRNA Plasmid (h): sc-39245-SH, KHS shRNA Plasmid (m): sc-39246-SH, KHS shRNA (h) Lentiviral Particles: sc-39245-V and KHS shRNA (m) Lentiviral Particles: sc-39246-V.

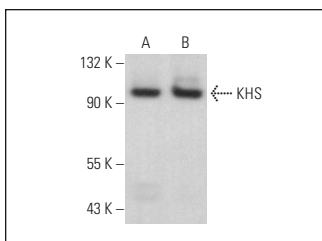
Molecular Weight of KHS: 95 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, A549 cell lysate: sc-2413 or A-431 whole cell lysate: sc-2201.

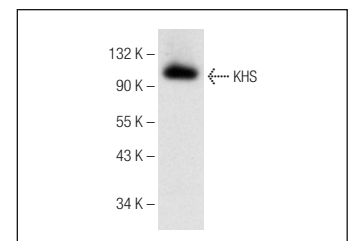
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



KHS (D-4): sc-374071. Western blot analysis of KHS expression in A549 (A) and A-431 (B) whole cell lysates.



KHS (D-4): sc-374071. Western blot analysis of KHS expression in HuT 78 whole cell lysate.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.