

HPK1 (C-9): sc-376169

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 HPK1, KHS, GLK, NIK, YSK1, Krs-1, Krs-2 and GC kinase. HPK1 (hematopoietic progenitor kinase 1), like many other STE20-like kinases, specifically activates the JNK signaling pathway. HPK1 binds to and phosphorylates MEKK, suggesting it plays an important role in regulating the stress responsive JNK/SAPK signaling pathway.

REFERENCES

1. Leberer, E., et al. 1992. The protein kinase homologue Ste20p is required to link the yeast pheromone response G-protein β subunits to downstream signalling components. *EMBO J.* 11: 4815-4824.
2. Wu, C., et al. 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. Hu, M.C., et al. 1996. Human HPK1, a novel human hematopoietic progenitor kinase that activates the JNK/SAPK kinase cascade. *Genes Dev.* 10: 2251-2264.
4. Su, Y.C., et al. 1997. NIK is a new Ste20-related kinase that binds NCK and MEKK1 and activates the SAPK/JNK cascade via a conserved regulatory domain. *EMBO J.* 16: 1279-1290.
5. Anafi, M., et al. 1997. SH2/SH3 adaptor proteins can link tyrosine kinases to a Ste20-related protein kinase, HPK1. *J. Biol. Chem.* 272: 27804-27811.

CHROMOSOMAL LOCATION

Genetic locus: MAP4K1 (human) mapping to 19q13.2; Map4k1 (mouse) mapping to 7 B1.

SOURCE

HPK1 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 4-31 at the N-terminus of HPK1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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-376169 P, (100 μ 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.

RESEARCH USE

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

APPLICATIONS

HPK1 (C-9) is recommended for detection of HPK1 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).

HPK1 (C-9) is also recommended for detection of HPK1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HPK1 siRNA (h): sc-35591, HPK1 siRNA (m): sc-35592, HPK1 shRNA Plasmid (h): sc-35591-SH, HPK1 shRNA Plasmid (m): sc-35592-SH, HPK1 shRNA (h) Lentiviral Particles: sc-35591-V and HPK1 shRNA (m) Lentiviral Particles: sc-35592-V.

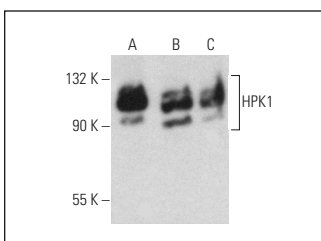
Molecular Weight of HPK1: 97 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Raji whole cell lysate: sc-364236 or NAMALWA cell lysate: sc-2234.

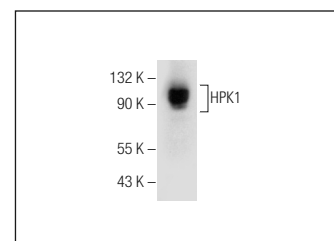
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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



HPK1 (C-9): sc-376169. Western blot analysis of HPK1 expression in Raji (A), NAMALWA (B) and GA-10 (C) whole cell lysates.



HPK1 (C-9): sc-376169. Western blot analysis of HPK1 expression in Ramos whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bader, A., et al. 2022. Decoding the signaling profile of hematopoietic progenitor kinase 1 (HPK1) in innate immunity: a proteomic approach. *Eur. J. Immunol.* 52: 760-769.

PROTOCOLS

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