

HPK1 (G-9): sc-374183

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 $\beta\gamma$ 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.

CHROMOSOMAL LOCATION

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

SOURCE

HPK1 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 800-827 at the C-terminus of HPK1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HPK1 (G-9) is available conjugated to agarose (sc-374183 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374183 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374183 PE), fluorescein (sc-374183 FITC), Alexa Fluor[®] 488 (sc-374183 AF488), Alexa Fluor[®] 546 (sc-374183 AF546), Alexa Fluor[®] 594 (sc-374183 AF594) or Alexa Fluor[®] 647 (sc-374183 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374183 AF680) or Alexa Fluor[®] 790 (sc-374183 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374183 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

HPK1 (G-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).

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.

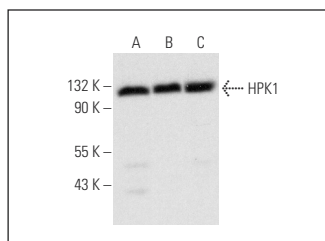
Molecular Weight of HPK1: 97 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or Raji whole cell lysate: sc-364236.

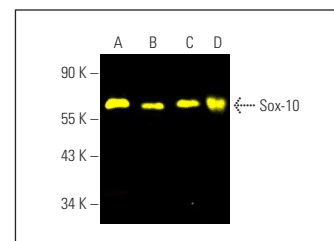
RECOMMENDED SUPPORT REAGENTS

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 (G-9): sc-374183. Western blot analysis of HPK1 expression in Jurkat (A), HuT 78 (B) and Ramos (C) whole cell lysates.



Sox-10 (A-2) Alexa Fluor[®] 488: sc-365692 AF488. Direct fluorescent western blot analysis of Sox-10 expression in SK-MEL-24 (A), A-375 (B) and C6 (C) whole cell lysates and human prostate tissue extract (D). Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. He, T.S., et al. 2021. The kinase MAP4K1 inhibits cytosolic RNA-induced antiviral signaling by promoting proteasomal degradation of TBK1/IKK ϵ . *Microbiol. Spectr.* 9: e0145821.

STORAGE

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