

HGK (5-12): sc-100445

BACKGROUND

HGK (HPK/GC kinase-like kinase), also known as mitogen-activated protein kinase kinase kinase kinase 4, MAPK/ERK kinase kinase kinase 4, MEKKK 4 or NCK-interacting kinase (NIK), is a member of the serine/threonine kinase subfamily, Ste20. This subfamily is comprised of several mammalian kinases which exhibit sequence similarity to the *Saccharomyces cerevisiae* serine/threonine kinase, Ste20. Members of this subfamily include KHS, GLK, YSK1, HPK1, Krs-1, Krs-2, GC kinase and HGK. HGK, like many of the Ste20-like kinases, has been shown to activate the SAPK/JNK stress response pathway. HGK interacts with MEK kinase-1 and is thought to act upstream of MEK kinase-1 in the SAPK/JNK signaling pathway. Both the kinase domain and the C-terminal regulatory domain of HGK are required for full activation.

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.

CHROMOSOMAL LOCATION

Genetic locus: MAP4K4 (human) mapping to 2q11.2; Map4k4 (mouse) mapping to 1 B.

SOURCE

HGK (5-12) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 611-710 of HGK of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HGK (5-12) is recommended for detection of HGK of 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), immunohistochemistry (including paraffin-embedded sections) (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 HGK siRNA (h): sc-39243, HGK siRNA (m): sc-39244, HGK shRNA Plasmid (h): sc-39243-SH, HGK shRNA Plasmid (m): sc-39244-SH, HGK shRNA (h) Lentiviral Particles: sc-39243-V and HGK shRNA (m) Lentiviral Particles: sc-39244-V.

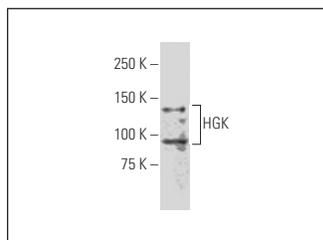
Molecular Weight of HGK: 130 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or MDA-MB-468 cell lysate: sc-2282.

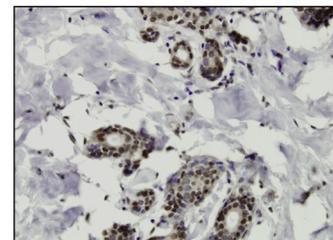
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HGK (5-12): sc-100445. Western blot analysis of HGK expression in K-562 whole cell lysate.



HGK (5-12): sc-100445. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast cancer tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhao, G., et al. 2013. MiRNA-141, downregulated in pancreatic cancer, inhibits cell proliferation and invasion by directly targeting MAP4K4. *Mol. Cancer Ther.* 12: 2569-2580.
2. Wang, B., et al. 2015. MiR-194, commonly repressed in colorectal cancer, suppresses tumor growth by regulating the MAP4K4/c-Jun/MDM2 signaling pathway. *Cell Cycle* 14: 1046-1058.
3. Lin, F., et al. 2021. Mouse bone marrow derived mesenchymal stem cells-secreted exosomal microRNA-125b-5p suppresses atherosclerotic plaque formation via inhibiting Map4k4. *Life Sci.* 274: 119249.

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.

PROTOCOLS

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