SANTA CRUZ BIOTECHNOLOGY, INC.

GLK (C-6): sc-515064

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Several mammalian kinases have been identified which exhibit 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 GLK, KHS, NIK, YSK1, HPK1, Krs-1, Krs-2 and human GC kinase. GLK (for GC-like kinase) is an 885 amino acid protein that shares a high degree of homology with GC kinase and HPK1. Like many of the STE20-like kinases, GLK specifically activates the JNK pathway. Epistasis studies with dominant negative mutants of MEKK1 suggest that GLK functions upstream of MEKK1 in the JNK signaling pathway.

REFERENCES

1. Leberer, E., et al. 1992. The protein kinase homologue Ste20p is required to link the yeast pheromone response G protein βγ 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.

CHROMOSOMAL LOCATION

Genetic locus: MAP4K3 (human) mapping to 2p22.1, MAP4K5 (human) mapping to 14q21.3; Map4k3 (mouse) mapping to 17 E3, Map4k5 (mouse) mapping to 12 C2.

SOURCE

GLK (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 862-885 at the C-terminus of GLK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GLK (C-6) is available conjugated to agarose (sc-515064 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515064 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515064 PE), fluorescein (sc-515064 FITC), Alexa Fluor® 488 (sc-515064 AF488), Alexa Fluor® 546 (sc-515064 AF546), Alexa Fluor® 594 (sc-515064 AF594) or Alexa Fluor® 647 (sc-515064 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515064 AF680) or Alexa Fluor® 790 (sc-515064 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515064 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GLK (C-6) is recommended for detection of GLK and KHS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

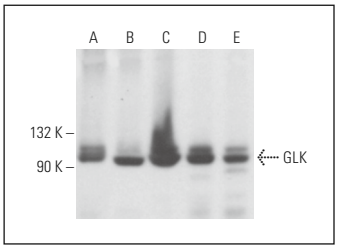
Molecular Weight of GLK isoforms: 101/100/99 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, NIH/3T3 whole cell lysate: sc-2210 or Hep G2 cell lysate: sc-2227.

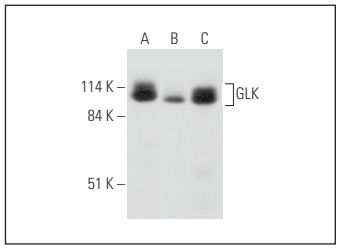
RECOMMENDED SUPPORT REAGENTS

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



GLK (C-6): sc-515064. Western blot analysis of GLK expression in Hep G2 (**A**), HEL 92.1.7 (**B**), 3T3-L1 (**C**), NIH/3T3 (**D**) and RPE-J (**E**) whole cell lysates.



GLK (C-6): sc-515064. Western blot analysis of GLK expression in 293T (**A**), HuT 78 (**B**) and Hep G2 (**C**) whole cell lysates.

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.