SANTA CRUZ BIOTECHNOLOGY, INC.

HIPK1 (SR-5): sc-100382

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The Power to Question

BACKGROUND

The homeodomain-interacting protein kinase (HIPK) family, which includes HIPK1, HIPK2 and HIPK3, are evolutionarily conserved nuclear serine/threonine kinases that interact with homeoproteins. The HIPK family of proteins act as transcriptional regulators, chromatin modifiers, cytoplasmic signal transducers, transmembrane proteins and the E2 component of SUMO ligase. HIPK1 is a 1,210 amino acid protein that is ubiquitously expressed, with highest levels in skeletal muscle and heart. HIPK1 may play a role as a corepressor for homeodomain transcription factors and may phosphorylate Daxx in response to stress. It is suggested that HIPK1 may be involved in malignant squamous cell tumor formation. Four isoforms exist due to alternative splicing events.

REFERENCES

1. Song, J.J. and Lee, Y.J. 2003. Role of the ASK1-SEK1-JNK1-HIPK1 signal in Daxx trafficking and ASK1 oligomerization. J. Biol. Chem. 278: 47245-47252.
2. Ecsedy, J.A., et al. 2003. Homeodomain-interacting protein kinase 1 modulates Daxx localization, phosphorylation, and transcriptional activity. Mol. Cell. Biol. 23: 950-960.
3. Kondo, S., Let al. 2003. Characterization of cells and gene-targeted mice deficient for the p53-binding kinase homeodomain-interacting protein kinase 1 (HIPK1). Proc. Natl. Acad. Sci. USA 100: 5431-5436.
4. Li, X., et al. 2005. Tumor necrosis factor α-induced desumoylation and cytoplasmic translocation of homeodomain-interacting protein kinase 1 are critical for apoptosis signal-regulating kinase 1-JNK/p38 activation. J. Biol. Chem. 280: 15061-15070.
5. Aikawa, Y., et al. 2006. Roles of HIPK1 and HIPK2 in AML1- and p300-dependent transcription, hematopoiesis and blood vessel formation. EMBO J. 25: 3955-3965.
6. Sekito, A., et al. 2006. DJ-1 interacts with HIPK1 and affects H_2O_2-induced cell death. Free Radic. Res. 40: 155-165.
7. Isono, K., et al. 2006. Overlapping roles for homeodomain-interacting protein kinases HIPK1 and HIPK2 in the mediation of cell growth in response to morphogenetic and genotoxic signals. Mol. Cell. Biol. 26: 2758-2771.

CHROMOSOMAL LOCATION

Genetic locus: HIPK1 (human) mapping to 1p13.2; Hipk1 (mouse) mapping to 3 F2.2.

SOURCE

HIPK1 (SR-5) is a mouse monoclonal antibody raised against recombinant HIPK1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

HIPK1 (SR-5) is recommended for detection of HIPK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for HIPK1 siRNA (h): sc-39048, HIPK1 siRNA (m): sc-39049, HIPK1 shRNA Plasmid (h): sc-39048-SH, HIPK1 shRNA Plasmid (m): sc-39049-SH, HIPK1 shRNA (h) Lentiviral Particles: sc-39048-V and HIPK1 shRNA (m) Lentiviral Particles: sc-39049-V.

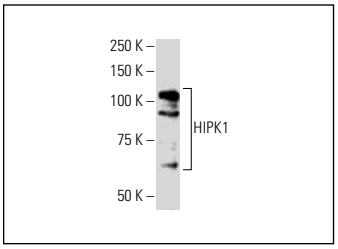
Molecular Weight of HIPK1: 120 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

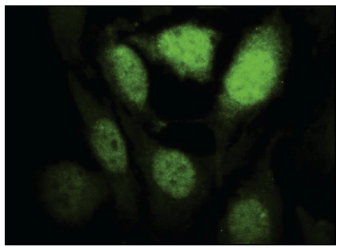
RECOMMENDED SUPPORT REAGENTS

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.

DATAV



HIPK1 (SR-5): sc-100382. Western blot analysis of HIPK1 expression in HeLa whole cell lysate.



HIPK1 (SR-5): sc-100382. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

STORAGE

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

PROTOCOLS

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