

HIPK2 (F-189): sc-100383

BACKGROUND

The homeodomain-interacting protein kinase (HIPK) family, which includes HIPK1, HIPK2 and HIPK3, contains a conserved protein kinase domain as well as a separate domain that interacts with homeoproteins. HIPK2, the most highly characterized family member, is thought to act as a corepressor of homeo-domain transcription factors as HIPK2 has been shown to enhance the DNA binding of the NK-3 homeoprotein *in vitro*. It is regulated by a post-translational modification of a ubiquitin-like protein, SUMO-1, via covalent bonding to a lysine residue on HIPK2. This is similar to the binding of SUMO-1 to PML and Sp100. The conjugation of SUMO-1 is thought to direct each of these proteins to nuclear bodies (NBs), which appear to play a role in autoimmunity and viral protection. HIPK2 is the first protein kinase to be directed to nuclear bodies in response to ubiquitin-like modification.

REFERENCES

- Kim, Y.H., et al. 1998. Homeodomain-interacting protein kinases, a novel family of co-repressors for homeodomain transcription factors. *J. Biol. Chem.* 273: 25875-25879.
- Schwarz, S.E., et al. 1998. The ubiquitin-like proteins SMT3 and SUMO-1 are conjugated by the UBC9 E2 enzyme. *Proc. Natl. Acad. Sci. USA* 95: 560-564.

CHROMOSOMAL LOCATION

Genetic locus: HIPK2 (human) mapping to 7q34; Hipk2 (mouse) mapping to 6 B1.

SOURCE

HIPK2 (F-189) is a mouse monoclonal antibody raised against amino acids 921-1065 of HIPK2 of human origin.

PRODUCT

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

APPLICATIONS

HIPK2 (F-189) is recommended for detection of HIPK2 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), 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 HIPK2 siRNA (h): sc-39050, HIPK2 siRNA (m): sc-39051, HIPK2 shRNA Plasmid (h): sc-39050-SH, HIPK2 shRNA Plasmid (m): sc-39051-SH, HIPK2 shRNA (h) Lentiviral Particles: sc-39050-V and HIPK2 shRNA (m) Lentiviral Particles: sc-39051-V.

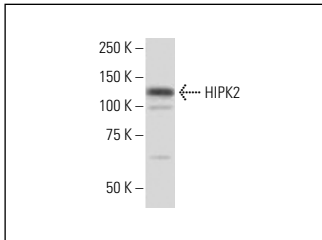
Molecular Weight of HIPK2: 131 kDa.

Positive Controls: MES-SA/Dx5 cell lysate: sc-2284.

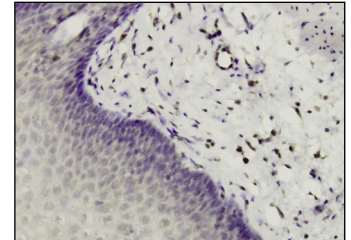
RECOMMENDED SUPPORT REAGENTS

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

DATA



HIPK2 (F-189): sc-100383. Western blot analysis of HIPK2 expression in MES-SA/Dx5 whole cell lysate.



HIPK2 (F-189): sc-100383. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human esophagus tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

- Davies, L., et al. 2011. PERP expression stabilizes active p53 via modulation of p53-MDM2 interaction in uveal melanoma cells. *Cell Death Dis.* 2: e136.
- Hasegawa, K., et al. 2012. Wnt signaling orchestration with a small molecule DYRK inhibitor provides long-term xeno-free human pluripotent cell expansion. *Stem Cells Transl. Med.* 1: 18-28.
- Isogai, T., et al. 2015. Proteomic analyses uncover a new function and mode of action for mouse homolog of Diaphanous 2 (mDia2). *Mol. Cell. Proteomics* 14: 1064-1078.
- Ye, M., et al. 2017. Histone deacetylase 5 promotes the migration and invasion of hepatocellular carcinoma via increasing the transcription of hypoxia-inducible factor-1α under hypoxia condition. *Tumour Biol.* 39: 1010428317705034.
- Cao, L., et al. 2019. HIPK2 is necessary for type I interferon-mediated antiviral immunity. *Sci. Signal.* 12: eaau4604.

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.