SANTA CRUZ BIOTECHNOLOGY, INC.

HIPK2 (P-17): sc-10293

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The Power to Question

BACKGROUND

The Homeodomain-Interacting Protein Kinase (HIPK) family, which includes HIPK1, HIPK2, 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 co-repressor of homeodomain transcription factors as HIPK2 has been shown to enhance the DNA binding of the NK-3 homeoprotein *in vitro*. It is regulated by a posttranslational 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

1. Kim, Y.H., et al. 1998. Homeodomian-interacting Protein Kinases, a novel family of co-repressors for homeodomain transcription factors. J. Biol. Chem. 273: 25875-25879.
2. 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.
3. Kim, Y.H., et al. 1999. Covalent modification of the homeodomain-interacting protein kinase 2 (HIPK2) by the ubiquitin-like protein SUMO-1. Proc. Natl. Acad. Sci. USA 96: 12350-12355.
4. Muller, S., et al. 1999. Viral immediate-early proteins abrogate the modification of SUMO-1 of PML and Sp100 proteins, correlating with nuclear body disruption. J. Virol. 73: 5137-5143.
5. Ishov, A.M., et al. 1999. PML is critical for ND10 formation and recruits the PML-interacting protein daxx to this nuclear structure when modified by SUMO-1. J. Cell Biol. 147: 221-234.
6. Sternsdorf, T., et al. 1999. The nuclear dot protein sp100, characterization of domains necessary for dimerization, subcellular localization, and modification by small ubiquitin-like modifiers. J. Biol. Chem. 274: 12555-12566.

CHROMOSOMAL LOCATION

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

SOURCE

HIPK2 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HIPK2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10293 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HIPK2 (P-17) 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), 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).

HIPK2 (P-17) is also recommended for detection of HIPK2 in additional species, including equine, canine and avian.

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 SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. McDonough, H., et al. 2009. Stress-dependent Daxx-CHIP interaction suppresses the p53 apoptotic program. J. Biol. Chem. 284: 20649-20659.

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 or our catalog for detailed protocols and support products.