

# HIPK2 (C-15): sc-10294

## 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 (NB's), 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

HIPK2 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-10294 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

HIPK2 (C-15) 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) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

HIPK2 (C-15) 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. Harada, J., et al. 2003. Requirement of the co-repressor homeodomain-interacting protein kinase 2 for Ski-mediated inhibition of bone morphogenetic protein-induced transcriptional activation. *J. Biol. Chem.* 278: 38998-39005.
2. Rui, Y., et al. 2004. Axin stimulates p53 functions by activation of HIPK2 kinase through multimeric complex formation. *EMBO J.* 23: 4583-4594.
3. Li, Q., et al. 2009. Axin determines cell fate by controlling the p53 activation threshold after DNA damage. *Nat. Cell Biol.* 11: 1128-1134.
4. Hikasa, H., et al. 2010. Regulation of TCF3 by Wnt-dependent phosphorylation during vertebrate axis specification. *Dev. Cell* 19: 521-532.
5. Hailemariam, K., et al. 2010. Transcriptional regulation of ferritin and antioxidant genes by HIPK2 under genotoxic stress. *J. Cell Sci.* 123: 3863-3871.
6. Tsuruyama, T., et al. 2010. Dual retrovirus integration tagging: identification of new signaling molecules Fiz1 and Hipk2 that are involved in the IL-7 signaling pathway in B lymphoblastic lymphomas. *J. Leukoc. Biol.* 88: 107-116.

## RESEARCH USE

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



Try **HIPK2 (F-189): sc-100383**, our highly recommended monoclonal alternative to HIPK2 (C-15).