10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HIPK2 Antibody (Y361)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7539f

Product Information

Application	WB, E
Primary Accession	Q9H2X6
Other Accession	O88850, Q9ERH7, Q9H422, Q9QZR5, A4L9P5, O88904, Q86Z02
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16665
Calculated MW	130966
Antigen Region	344-372

Additional Information

Gene ID	28996
Other Names	Homeodomain-interacting protein kinase 2, hHIPk2, HIPK2
Target/Specificity	This HIPK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 344-372 amino acids from human HIPK2.
Dilution	WB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HIPK2 Antibody (Y361) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HIPK2
Function	Serine/threonine-protein kinase involved in transcription regulation, p53/TP53-mediated cellular apoptosis and regulation of the cell cycle. Acts as a corepressor of several transcription factors, including SMAD1 and

	POU4F1/Brn3a and probably NK homeodomain transcription factors. Phosphorylates PDX1, ATF1, PML, p53/TP53, CREB1, CTBP1, CBX4, RUNX1, EP300, CTNNB1, HMGA1, ZBTB4 and DAZAP2. Inhibits cell growth and promotes apoptosis through the activation of p53/TP53 both at the transcription level and at the protein level (by phosphorylation and indirect acetylation). The phosphorylation of p53/TP53 may be mediated by a p53/TP53-HIPK2-AXIN1 complex. Involved in the response to hypoxia by acting as a transcriptional co-suppressor of HIF1A. Mediates transcriptional activation of TP73. In response to TGFB, cooperates with DAXX to activate JNK. Negative regulator through phosphorylation and subsequent proteasomal degradation of CTNNB1 and the antiapoptotic factor CTBP1. In the Wnt/beta-catenin signaling pathway acts as an intermediate kinase between MAP3K7/TAK1 and NLK to promote the proteasomal degradation of MYB. Phosphorylates CBX4 upon DNA damage and promotes its E3 SUMO-protein ligase activity. Activates CREB1 and ATF1 transcription factors by phosphorylation in response to genotoxic stress. In response to DNA damage, stabilizes PML by phosphorylation. PML, HIPK2 and FBXO3 may act synergically to activate p53/TP53-dependent transactivation. Promotes angiogenesis, and is involved in erythroid differentiation, especially during fetal liver erythropoiesis. Phosphorylation of RUNX1 and EP300 stimulates EP300 transcription regulation activity. Triggers ZBTB4 protein degradation in response to DNA damage. In response to DNA damage, phosphorylates DAZAP2 which localizes DAZAP2 to the nucleus, reduces interaction of DAZAP2 with HIPK2 and prevents DAZAP2-dependent ubiquitination of HIPK2 by E3 ubiquitin-protein ligase SIAH1 and subsequent proteasomal degradation (PubMed:33591310). Modulates HMGA1 DNA-binding affinity. In response to high glucose, triggers phosphorylation-mediated subnuclear localization shifting of PDX1. Involved in the regulation of eye size, lens formation and retinal lamination during late embryogenesis.
Cellular Location	Nucleus, PML body. Cytoplasm Cytoplasm, Stress granule Note=Concentrated in PML/POD/ND10 nuclear bodies. Small amounts are cytoplasmic
Tissue Location	Highly expressed in heart, muscle and kidney. Weakly expressed in a ubiquitous way. Down-regulated in several thyroid and breast tumors.

Background

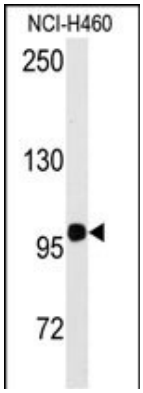
HIPK2, a member of the KIPK subfamily of Ser/Thr protein kinases, phosphorylates homeodomain transcription factors. It may play a role as a corepressor for homeodomain transcription factors. This nuclear protein has been shown to interact with TRADD. It is highly expressed in neuronal tissues, heart and kidney, and weakly expressed in a ubiquitous way. HIPK2 is a target for sumoylation, and when conjugated it is directed to nuclear speckles

References

Li, X., et al., Biochem. Biophys. Res. Commun. 277(2):513-517 (2000).
Wang, Y., et al., Biochim. Biophys. Acta 1518 (1-2), 168-172 (2001).

Images

Western blot analysis of anti-HIPK2 Antibody (Y361) (Cat.#AP7539f) in NCI-H460 cell line lysates (35ug/lane). HIPK2 (arrow) was detected using the purified Pab.



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