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HIPK2 Rabbit pAb

Catalog # AP99492

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9H2X6
Other Accession	Q9H2X6
Reactivity	Human, Mouse
Predicted	Rat, Pig, Rabbit, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	130966
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human HIPK2
Epitope Specificity	401-500/1198
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. HIPK subfamily. Contains 1 protein kinase domain.
SUBUNIT	Interacts with CREB1, SIAH1, WSB1, CBX4, TRADD, p53/TP53, TP73, TP63, CREBBP, DAXX, P53DINP1, SKI, SMAD1, SMAD2 and SMAD3, but not SMAD4. Interacts with ATF1, PML, RUNX1, EP300, NKX1-2, NKX2-5, SPN/CD43, UBE2I, HMGA1, CTBP1, AXIN1, NLK, MYB, POU4F1, POU4F2, POU4F3, UBE2I, UBL1 and ZBTB4. Probably part of a complex consisting of p53/TP53, HIPK2 and AXIN1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Protein kinase acting as a corepressor of several transcription factors, including SMAD1 and POU4F1/Brn3a and probably NK homeodomain transcription factors. Inhibits cell growth and promotes apoptosis. Involved in transcriptional activation of TP53 and TP73. Phosphorylation of TP53 may be mediated by a TP53-HIPK2-AXIN1 complex. In response to TGFB, cooperates with DAXX to activate JNK. Phosphorylates the antiapoptotic factor CTBP1 and promotes its proteasomal degradation. In the Wnt/beta-catenin signaling pathway acts as an intermediate kinase between TAK1 and NLK to promote the proteasomal degradation of MYB (By similarity). Phosphorylates CBX4 upon DNA damage and promotes its E3 SUMO-protein ligase activity. PML, HIPK2 and FBXO3 may act synergically to activate p53/TP53-dependent transactivation.

Additional Information

Gene ID	28996
Other Names	PRO0593; 1110014O20Rik; B230339E18Rik; Stank; HIPK2_HUMAN; HIPK2; hHIPk2; 2.7.11.1; HIPK2_MOUSE; Nuclear body-associated kinase 1;

	Sialophorin tail-associated nuclear serine/threonine-protein kinase; Nbak1;
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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.

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