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PIAS2 (PIASx1/2) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1247a

Product Information

Application	IHC-P, E
Primary Accession	O75928
Other Accession	Q6AZ28
Reactivity	Human
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB0701
Calculated MW	68240
Antigen Region	518-547

Additional Information

Gene ID	9063
Other Names	E3 SUMO-protein ligase PIAS2, 632-, Androgen receptor-interacting protein 3, ARIP3, DAB2-interacting protein, DIP, Msx-interacting zinc finger protein, Miz1, PIAS-NY protein, Protein inhibitor of activated STAT x, Protein inhibitor of activated STAT2, PIAS2, PIASX
Target/Specificity	This PIAS2 (PIASx1/2) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 518-547 amino acids from the C-terminal region of human PIAS2 (PIASx1/2).
Dilution	IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	PIAS2 (PIASx1/2) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIAS2

Synonyms	PIASX
Function	Functions as an E3-type small ubiquitin-like modifier (SUMO) ligase, stabilizing the interaction between UBE2I and the substrate, and as a SUMO-tethering factor. Plays a crucial role as a transcriptional coregulator in various cellular pathways, including the STAT pathway, the p53 pathway and the steroid hormone signaling pathway. The effects of this transcriptional coregulation, transactivation or silencing may vary depending upon the biological context and the PIAS2 isoform studied. However, it seems to be mostly involved in gene silencing. Binds to sumoylated ELK1 and enhances its transcriptional activity by preventing recruitment of HDAC2 by ELK1, thus reversing SUMO-mediated repression of ELK1 transactivation activity. Isoform PIAS2-beta, but not isoform PIAS2-alpha, promotes MDM2 sumoylation. Isoform PIAS2-alpha promotes PARK7 sumoylation. Isoform PIAS2-beta promotes NCOA2 sumoylation more efficiently than isoform PIAS2-alpha. Isoform PIAS2-alpha sumoylates PML at'Lys-65' and 'Lys-160'.
Cellular Location	Nucleus speckle {ECO:0000250|UniProtKB:Q8C5D8}. Nucleus, PML body. Nucleus. Note=Colocalizes at least partially with promyelocytic leukemia nuclear bodies (PML NBs) (PubMed:22406621) Colocalizes with SUMO1 in nuclear granules (By similarity) {ECO:0000250|UniProtKB:Q8C5D8, ECO:0000269|PubMed:22406621}
Tissue Location	Mainly expressed in testis. Isoform 3 is expressed predominantly in adult testis, weakly in pancreas, embryonic testis and sperm, and at very low levels in other organs

Background

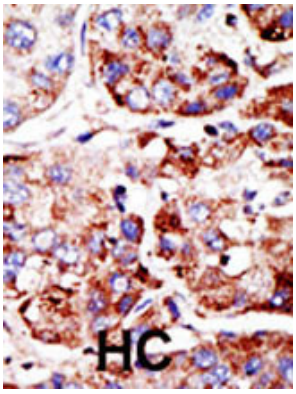
PIASX functions as an E3-type small ubiquitin-like modifier (SUMO) ligase, stabilizing the interaction between UBE2I and the substrate, and as a SUMO-tethering factor. This protein plays a crucial role as a transcriptional coregulator in various cellular pathways, including the STAT pathway, the p53 pathway and the steroid hormone signaling pathway. The effects of this transcriptional coregulation, transactivation or silencing may vary depending upon the biological context and the PIAS2 isoform studied. However, it seems to be mostly involved in gene silencing. PIASX binds to sumoylated ELK1 and enhances its transcriptional activity by preventing recruitment of HDAC2 by ELK1, thus reversing SUMO-mediated repression of ELK1 transactivation activity. Isoform PIAS2-beta, but not isoform PIAS2-alpha, promotes MDM2 sumoylation. Isoform PIAS2-alpha promotes PARK7 sumoylation. Isoform PIAS2-beta promotes NCOA2 sumoylation more efficiently than isoform PIAS2-alpha.

References

Sakurai, T., et al., J. Biol. Chem. 279(15):15505-15514 (2004).
Arora, T., et al., J. Biol. Chem. 278(24):21327-21330 (2003).
Wu, S., et al., Oncogene 22(3):351-360 (2003).
Liu, B., et al., Proc. Natl. Acad. Sci. U.S.A. 95(18):10626-10631 (1998).
Wu, L., et al., Mech. Dev. 65 (1-2), 3-17 (1997).

Images

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma;



HC = hepatocarcinoma.