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PIASy Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1249a

Specification

PIASy Antibody (N-term) - Product Information

Application	**IHC-P, WB,E**
Primary Accession	Q8N2W9
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**48-79**

PIASy Antibody (N-term) - Additional Information

Gene ID 51588

Other Names
E3 SUMO-protein ligase PIAS4, 632-, PIASy, Protein inhibitor of activated STAT protein 4, Protein inhibitor of activated STAT protein gamma, PIAS-gamma, PIAS4, PIASG

Target/Specificity
This PIASy antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 48-79 amino acids from the N-terminal region of human PIASy.

Dilution
IHC-P~~1:50~100
WB~~1:1000
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
PIASy Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PIASy Antibody (N-term) - Protein Information

Name PIAS4 {ECO:0000303|PubMed:32832608, ECO:0000312|HGNC:HGNC:17002}

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 (PubMed:12511558, PubMed:12631292, PubMed:12727872, PubMed:15831457, PubMed:15976810, PubMed:22508508, PubMed:32832608). Mediates sumoylation of ALKBH5, AXIN1, CEBPA, KLF8, GATA2, PARK7, HERC2, MYB, TCF4 and RNF168 (PubMed:12223491, PubMed:12511558, PubMed:12631292, PubMed:12727872, PubMed:12750312, PubMed:15831457, PubMed:15976810, PubMed:16617055, PubMed:22508508, PubMed:34048572). Plays a crucial role as a transcriptional coregulation in various cellular pathways, including the STAT pathway, the p53/TP53 pathway, the Wnt pathway and the steroid hormone signaling pathway (PubMed:11388671). Involved in gene silencing (PubMed:11248056). In Wnt signaling, represses LEF1 and enhances TCF4 transcriptional activities through promoting their sumoylations (PubMed:12727872, PubMed:15831457). Enhances the sumoylation of MTA1 and may participate in its paralog-selective sumoylation (PubMed:21965678). Binds to AT-rich DNA sequences, known as matrix or scaffold attachment regions (MARs/SARs) (By similarity). Catalyzes conjugation of SUMO2 to KAT5 in response to DNA damage, facilitating repair of DNA double-strand breaks (DSBs) via homologous recombination (HR) (PubMed:32832608). Mediates sumoylation of PARP1 in response to PARP1 trapping to chromatin (PubMed:35013556). Mediates sumoylation of KLF8, repressiing KLF8 transcriptional activity and cell cycle progression into G(1) phase (PubMed:16617055). Sumoylates ALKBH5 downstream of MAPK8/JNK1 and MAPK9/JNK2 in response to reactive oxygen species (ROS), inhibiting ALKBH5 RNA demethylase activity (PubMed:34048572).

Cellular Location
Nucleus, PML body Note=Colocalizes with SUMO1 and TCF7L2/TCF4 and LEF1 in a subset of PML (promyelocytic leukemia) nuclear bodies.

Tissue Location
Highly expressed in testis and, at lower levels, in spleen, prostate, ovary, colon and peripheral blood leukocytes

PIASy Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PIASy Antibody (N-term) - Images

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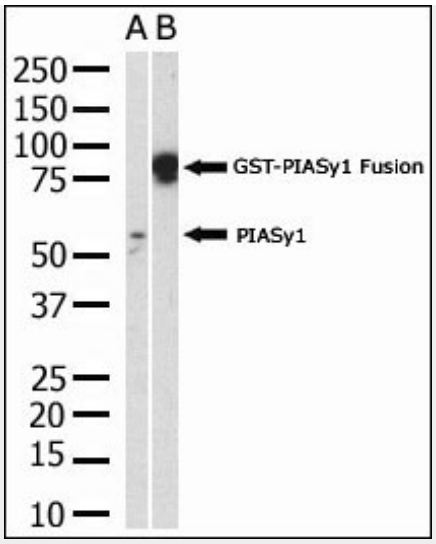
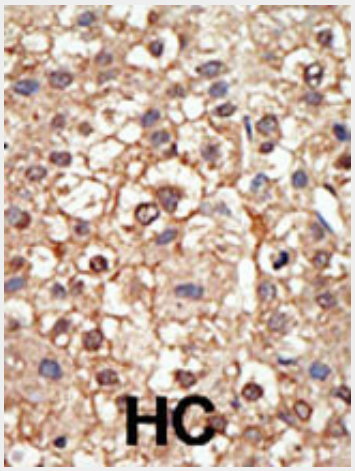


The anti-PIASy polyclonal antibody (Cat. #AP1249a) is used in Western blot to detect PIASy in HL-60 cell lysate.



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.

PIASy Antibody (N-term) - Background

PIASy1 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 in transcriptional coregulation of various cellular pathways, including the STAT pathway, the p53 pathway, the wnt pathway and the steroid hormone signaling pathway. PIASy1 is involved in gene silencing, and promotes PARK7 sumoylation.

PIASy Antibody (N-term) - References

Imoto, S., et al., J. Biol. Chem. 278(36):34253-34258 (2003).
Chun, T.H., et al., Circ. Res. 92(11):1201-1208 (2003).
Subramanian, L., et al., J. Biol. Chem. 278(11):9134-9141 (2003).
Liu, B., et al., Proc. Natl. Acad. Sci. U.S.A. 98(6):3203-3207 (2001).
Liu, B., et al., Proc. Natl. Acad. Sci. U.S.A. 95(18):10626-10631 (1998).

PIASy Antibody (N-term) - Citations

- Activation of the SUMO modification system is required for the accumulation of RAD51 at

sites of DNA damage.
- The interaction of Piasy with Trim32, an E3-ubiquitin ligase mutated in limb-girdle muscular dystrophy type 2H, promotes Piasy degradation and regulates UVB-induced keratinocyte apoptosis through NFkappaB.