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# PIAS3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1245a

## Product Information

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| **Application** | IHC-P, WB, E |
| **Primary Accession** | Q9Y6X2 |
| **Other Accession** | O70260, O54714 |
| **Reactivity** | Human |
| **Predicted** | Mouse, Rat, Bovine, Canine, Rabbit |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 68017 |
| **Antigen Region** | 95-126 |

## Additional Information

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| **Gene ID** | 10401 |
| **Other Names** | E3 SUMO-protein ligase PIAS3, 632-, Protein inhibitor of activated STAT protein 3, PIAS3 |
| **Target/Specificity** | This PIAS3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 95-126 amino acids from the N-terminal region of human PIAS3. |
| **Dilution** | IHC-P~~1:100~500 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** | PIAS3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PIAS3 |
| **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 coregulation in |

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| | various cellular pathways, including the STAT pathway and the steroid hormone signaling pathway. Involved in regulating STAT3 signaling via inhibiting STAT3 DNA-binding and suppressing cell growth. Enhances the sumoylation of MTA1 and may participate in its paralog-selective sumoylation (PubMed:21965678, PubMed:9388184). Sumoylates CCAR2 which promotes its interaction with SIRT1 (PubMed:25406032). Diminishes the sumoylation of ZFHX3 by preventing the colocalization of ZFHX3 with SUMO1 in the nucleus (PubMed:24651376). |
| **Cellular Location** | Cytoplasm {ECO:0000250\|UniProtKB:O54714}. Nucleus {ECO:0000250\|UniProtKB:O54714}. Nucleus speckle {ECO:0000250\|UniProtKB:O54714}. Note=Colocalizes with MITF in the nucleus. Colocalizes with GFI1 in nuclear dots. Colocalizes with SUMO1 in nuclear granules. {ECO:0000250\|UniProtKB:O54714} |
| **Tissue Location** | Widely expressed.. |

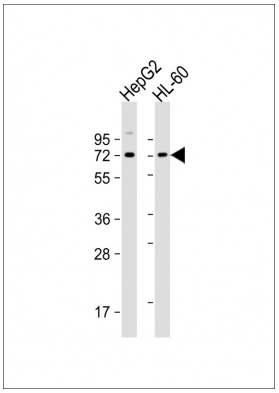
## Background

PIAS3 is a member of the PIAS [protein inhibitor of activated STAT (signal transducer and activator of transcription)] family of transcriptional modulators. The protein functions as a SUMO (small ubiquitin-like modifier)-E3 ligase stabilizing the interaction between UBE2I and the substrate, and as a SUMO-tethering factor, catalyzing the covalent attachment of a SUMO protein to specific target substrates. PIAS3 plays a crucial role as a transcriptional coregulator in various cellular pathways, including the STAT pathway and the steroid hormone signaling pathway. The effects of this transcriptional coregulation, transactivation or silencing, may vary depending upon the biological context.

## References

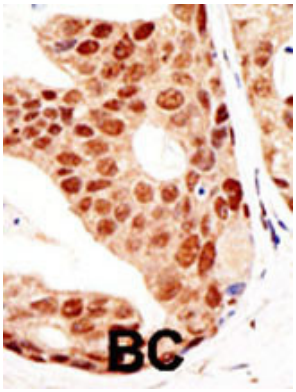
Nojiri, S., et al., Biochem. Biophys. Res. Commun. 314(1):97-103 (2004). Long, J., et al., Proc. Natl. Acad. Sci. U.S.A. 101(1):99-104 (2004). Cheng, J., et al., Leuk. Res. 28(1):71-82 (2004). Yamamoto, T., et al., Biochem. Biophys. Res. Commun. 306(2):610-615 (2003). Ueki, N., et al., J. Hum. Genet. 44(3):193-196 (1999).

## Images




All lanes : Anti-PIAS3 Antibody (N-term) at 1:1000 dilution Lane 1: HepG2 whole cell lysate Lane 2: HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 68kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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.




## Citations

- Developmental profiles of SUMOylation pathway proteins in rat cerebrum and cerebellum.
- Loss of protein inhibitors of activated STAT-3 expression in glioblastoma multiforme tumors: implications for STAT-3 activation and gene expression.
- The SUMO-E3 ligase PIAS3 targets pyruvate kinase M2.
- PIAS3 interacts with ATF1 and regulates the human ferritin H gene through an antioxidant-responsive element.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.