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Anti-PIAS1 (RABBIT) Antibody

PIAS1 Antibody
Catalog # ASR5602

Specification

Anti-PIAS1 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Anti-PIAS1 Antibody has been tested for use in ELISA, Western Blotting, and Dot Blotting. HEK293 WCL p/n (W09-000-365) and K-562 WCL p/n (W09-001-GJ7) were used as positive control lysates in western blot. Expect a band at approximately 72 kDa in Western Blots of specific cell lysates and tissues. Specific conditions for reactivity should be optimized by the end user. While not tested, it is likely Anti-PIAS1 antibody will work for immunofluorescence, IHC, and CHIP assays.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.01 M Sodium Phosphate, 0.25 M Sodium Chloride, pH 7.2**
Immunogen	**Anti-PIAS1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide from the internal region of human PIAS1.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-PIAS1 (RABBIT) Antibody - Additional Information

Gene ID 8554

Other Names
8554

Purity
Anti-PIAS1 Antibody was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest reactivity to mouse 92.9% homology for the immunogen sequence. Cross-reactivity from PIAS1 family and other sources has not been determined.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-PIAS1 (RABBIT) Antibody - Protein Information

Name PIAS1

Synonyms DDXBP1

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:11583632, PubMed:11867732, PubMed:14500712, PubMed:21965678, PubMed:36050397). Catalyzes sumoylation of various proteins, such as CEBPB, MRE11, MTA1, PTK2 and PML (PubMed:11583632, PubMed:11867732, PubMed:14500712, PubMed:21965678, PubMed:36050397). Plays a crucial role as a transcriptional coregulation in various cellular pathways, including the STAT pathway, the p53 pathway and the steroid hormone signaling pathway (PubMed:11583632, PubMed:11867732). In vitro, binds A/T-rich DNA (PubMed:15133049). The effects of this transcriptional coregulation, transactivation or silencing, may vary depending upon the biological context (PubMed:11583632, PubMed:11867732, PubMed:14500712, PubMed:21965678, PubMed:36050397). Mediates sumoylation of MRE11, stabilizing MRE11 on chromatin during end resection (PubMed:36050397). Sumoylates PML (at 'Lys-65' and 'Lys-160') and PML-RAR and promotes their ubiquitin-mediated degradation (By similarity). PIAS1-mediated sumoylation of PML promotes its interaction with CSNK2A1/CK2 which in turn promotes PML phosphorylation and degradation (By similarity). Enhances the sumoylation of MTA1 and may participate in its paralog- selective sumoylation (PubMed:21965678). Plays a dynamic role in adipogenesis by promoting the SUMOylation and degradation of CEBPB (By similarity). Mediates the nuclear mobility and localization of MSX1 to the nuclear periphery, whereby MSX1 is brought into the proximity of target myoblast differentiation factor genes (By similarity). Also required for the binding of MSX1 to the core enhancer region in target gene promoter regions, independent of its sumoylation activity (By similarity). Capable of binding to the core enhancer region TAAT box in the MYOD1 gene promoter (By similarity).

Cellular Location
Nucleus {ECO:0000250|UniProtKB:O88907}. Nucleus speckle Nucleus, PML body {ECO:0000250|UniProtKB:O88907}. Cytoplasm, cytoskeleton. Note=Interaction with CSRP2 may

induce a partial redistribution along the cytoskeleton (PubMed:11672422). Interaction with MSX1 is required for localization to the nuclear periphery (By similarity) {ECO:0000250|UniProtKB:O88907, ECO:0000269|PubMed:11672422}

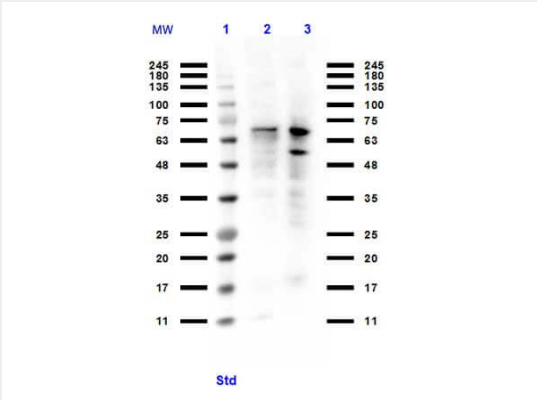
Tissue Location
Expressed in numerous tissues with highest level in testis.

Anti-PIAS1 (RABBIT) Antibody - 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

Anti-PIAS1 (RABBIT) Antibody - Images



Western Blot of PIAS1 antibody. Lane 1: MW ladder Opal pre-stained (p/n MB-210-0500). Lane 2: HEK293 whole cell lysate (p/n W09-000-365). Lane 3: K-562 whole cell lysate (p/n W09-001-GJ7). Primary Antibody: Anti-PIAS1 antibody at 1.0 µg/mL. Secondary antibody: Peroxidase rabbit secondary antibody (p/n 611-103-122) at 1:70,000 for 45 min at RT. Block: MB-070 overnight at 4°C. Predicted/Observed size: 72 kDa, 60 kDa for PIAS1. Other band(s): PIAS1 splice variants and isoforms.

Anti-PIAS1 (RABBIT) Antibody - Background

The PIAS proteins (protein inhibitor of activated STAT) play a crucial role as transcriptional coregulators in various cellular pathways, including the STAT, p53 and the steroid hormone signaling pathway. The PIAS protein family includes at least five evolutionarily conserved genes, including PIAS1. The major function of the PIAS proteins is the control of gene transcription and can also act as small ubiquitin-like-modifier (SUMO) E3 ligases. PIAS1 binds specifically to STAT1, inhibiting STAT1-mediated gene activation and also binds to the Gu/RNA helicase II enzyme, leading to the proteolytic cleavage of Gu/RH-II. PIAS1 is a potent co-activator for CP2c-mediated alpha-globin expression in erythroid cells. Anti-PIAS1 Antibody is useful for researchers interested in epigenetics and cancer research.