

PIAS1 Antibody

Rabbit mAb Catalog # AP91835

## Specification

# PIAS1 Antibody - Product Information

Application Primary Accession Reactivity Clonality <b>Other Names</b> DDXBP1; GBP; GU/RH-II; Pias1; ZMIZ3;	WB, IHC, FC, ICC <u>075925</u> Rat Monoclonal
lsotype Host Calculated MW	Rabbit IgG Rabbit 71836 Da
PIAS1 Antibody - Additional Information	
Purification Immunogen	Affinity-chromatography A synthesized peptide derived from human
Description	Functions as an E3-type small ubiquitin-like modifier (SUMO) ligase, stabilizing the interaction between UBE21 and the substrate, and as a SUMO-tethering factor. 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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## **PIAS1 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:<a href="http://www.uniprot.org/citations/11583632" target="\_blank">11583632</a>, PubMed:<a href="http://www.uniprot.org/citations/11867732" target="\_blank">11867732</a>, PubMed:<a href="http://www.uniprot.org/citations/14500712" target="\_blank">14500712</a>, PubMed:<a



href="http://www.uniprot.org/citations/21965678" target=" blank">21965678</a>, PubMed:<a href="http://www.uniprot.org/citations/36050397" target=" blank">36050397</a>). Catalyzes sumovlation of various proteins, such as CEBPB, MRE11, MTA1, PTK2 and PML (PubMed:<a href="http://www.uniprot.org/citations/11583632" target=" blank">11583632</a>, PubMed:<a href="http://www.uniprot.org/citations/11867732" target=" blank">11867732</a>, PubMed:<a href="http://www.uniprot.org/citations/14500712" target=" blank">14500712</a>, PubMed:<a href="http://www.uniprot.org/citations/21965678" target=" blank">21965678</a>, PubMed:<a href="http://www.uniprot.org/citations/36050397" target=" blank">36050397</a>). 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:<a href="http://www.uniprot.org/citations/11583632" target=" blank">11583632</a>, PubMed:<a href="http://www.uniprot.org/citations/11867732" target="\_blank">11867732</a>). In vitro, binds A/T-rich DNA (PubMed: <a href="http://www.uniprot.org/citations/15133049" target=" blank">15133049</a>). The effects of this transcriptional coregulation, transactivation or silencing, may vary depending upon the biological context (PubMed:<a href="http://www.uniprot.org/citations/11583632" target=" blank">11583632</a>, PubMed:<a href="http://www.uniprot.org/citations/11867732" target=" blank">11867732</a>, PubMed:<a href="http://www.uniprot.org/citations/14500712" target="\_blank">14500712</a>, PubMed:<a href="http://www.uniprot.org/citations/21965678" target=" blank">21965678</a>, PubMed:<a href="http://www.uniprot.org/citations/36050397" target=" blank">36050397</a>). Mediates sumoylation of MRE11, stabilizing MRE11 on chromatin during end resection (PubMed:<a href="http://www.uniprot.org/citations/36050397" target=" blank">36050397</a>). Sumoylates PML (at 'Lys-65' and 'Lys-160') and PML-RAR and promotes their ubiguitin-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:<a href="http://www.uniprot.org/citations/21965678" target=" blank">21965678</a>). 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.

## PIAS1 Antibody - Protocols

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

- <u>Western Blot</u>
- <u>Blocking Peptides</u>
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- <u>Flow Cytomety</u>



#### • <u>Cell Culture</u> PIAS1 Antibody - Images



Western blot analysis of PIAS1 expression in Daudi cell lysate.