

Specification

Application	WB, IHC-P
Primary Accession	O75925
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal

Gene ID 8554

PIAS1; DDXBP1; E3 SUMO-protein ligase PIAS1; DEAD/H box-binding protein 1; Gu-binding protein; GBP; Protein inhibitor of activated STAT protein 1; RNA helicase II-binding protein

Dilution

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications.
IHC-P~~N/A

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

PIAS 1 Polyclonal 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).

[21965678](http://www.uniprot.org/citations/21965678), PubMed: [36050397](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/11583632), PubMed: [11867732](http://www.uniprot.org/citations/11867732)). In vitro, binds A/T-rich DNA (PubMed: [15133049](http://www.uniprot.org/citations/15133049)). The effects of this transcriptional coregulation, transactivation or silencing, may vary depending upon the biological context (PubMed: [11583632](http://www.uniprot.org/citations/11583632), PubMed: [11867732](http://www.uniprot.org/citations/11867732), PubMed: [14500712](http://www.uniprot.org/citations/14500712), PubMed: [21965678](http://www.uniprot.org/citations/21965678), PubMed: [36050397](http://www.uniprot.org/citations/36050397)). Mediates sumoylation of MRE11, stabilizing MRE11 on chromatin during end resection (PubMed: [36050397](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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

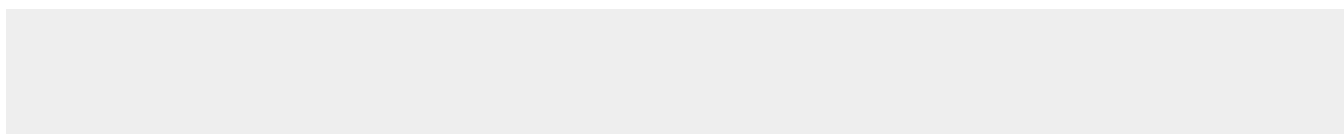
Expressed in numerous tissues with highest level in testis.

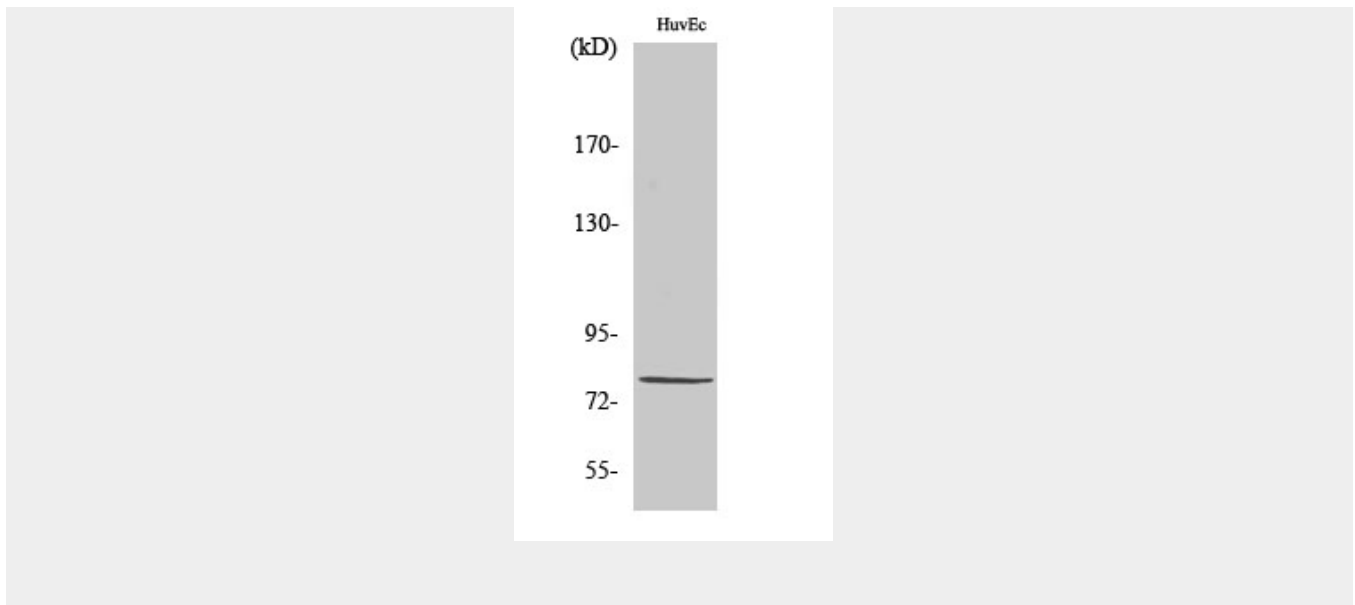
PIAS 1 Polyclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PIAS 1 Polyclonal Antibody - Images





PIAS 1 Polyclonal Antibody - Background

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 various cellular pathways, including the STAT pathway, the p53 pathway and the steroid hormone signaling pathway. In vitro, binds A/T-rich DNA. The effects of this transcriptional coregulation, transactivation or silencing, may vary depending upon the biological context. Sumoylates PML (at 'Lys-65' and 'Lys-160') and PML-RAR and promotes their ubiquitin-mediated degradation. 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. Plays a dynamic role in adipogenesis by promoting the SUMOylation and degradation of CEBPB (By similarity).