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PIAS1/2 Recombinant Rabbit mAb

Catalog # AP100287

Product Information

Application	WB, IHC-P, IHC-F, IF, IP
Primary Accession	O75925
Other Accession	O75925
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	71836
Physical State	Liquid
Immunogen	A synthesized peptide derived from human PIAS1
Epitope Specificity	600-651
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	10mM phosphate buffered saline(pH 7.4) with 150mM sodium chloride, 0.05% BSA, 0.02% Proclin300 and 50% glycerol.
SIMILARITY	Belongs to the PIAS family. Contains 1 PINIT domain. Contains 1 SAP domain. Contains 1 SP-RING-type zinc finger.
Post-translational modifications	Sumoylated. Dimethylated by PRMT1 at Arg-303 in the late phase of interferon gamma (IFN-gamma) signaling, leading to preferential interaction with STAT1 and thus resulting in release of STAT1 from its target gene.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

Gene ID	8554
Other Names	DDXBP1; GBP; GU/RH-II; ZMIZ3; 2900068C24Rik; PIAS1_HUMAN; PIAS1; DEAD/H box-binding protein 1; E3 SUMO-protein transferase PIAS1; Gu-binding protein (GBP); Protein inhibitor of activated STAT protein 1; RNA helicase II-binding protein; 2.3.2.-; PIAS1_MOUSE; RING-type E3 ubiquitin transferase PIAS1; 2.3.2.27; protein inhibitor of activated STAT 1; DEAD/H (Asp-Glu-Ala-Asp/His) box binding protein 1; zinc finger, MIZ-type containing 3
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:50-200,IF=1:100-500,IP=1:20-50,Flow-Cyt=1:50-100
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

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:15280358, PubMed:21965678, PubMed:36050397). Catalyzes sumoylation of various proteins, such as CEBPB, MRE11, MTA1, PTK2, PML and ZNF76 (PubMed:11583632, PubMed:11867732, PubMed:14500712, PubMed:15280358, 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.

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