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Anti-PIAS1 Antibody

Catalog # ABO11562

Product Information

Application	WB, IHC-P, ICC
Primary Accession	O75925
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for E3 SUMO-protein ligase PIAS1(PIAS1) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	8554
Other Names	E3 SUMO-protein ligase PIAS1, 6.3.2.-, DEAD/H box-binding protein 1, Gu-binding protein, GBP, Protein inhibitor of activated STAT protein 1, RNA helicase II-binding protein, PIAS1, DDXBP1
Calculated MW	71836
Application Details	Immunocytochemistry , 0.5-1 □g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Nucleus speckle . Nucleus, PML body . Interaction with CSRP2 may induce a partial redistribution along the cytoskeleton.
Tissue Specificity	Expressed in numerous tissues with highest level in testis. .
Source	Eukaryota
Protein Name	E3 SUMO-protein ligase PIAS1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human PIAS1(636-651aa DTASIFGIIPDIISLD), identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the PIAS family.

Protein Information

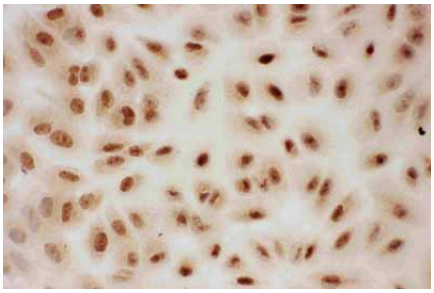
Name	PIAS1
Synonyms	DDXBP1
Function	Functions as an E3-type small ubiquitin-like modifier (SUMO) ligase, stabilizing the interaction between UBE2I and the substrate, and as a SUMO-tethering factor (PubMed:11583632, PubMed:11867732, PubMed:14500712, PubMed:15280358, PubMed:21965678, PubMed:36050397). 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.

Background

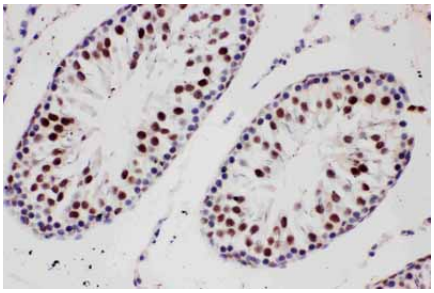
E3 SUMO-protein ligase PIAS1 is an enzyme that in humans is encoded by the PIAS1 gene. It is mapped to 15q23. This gene encodes a member of the mammalian PIAS [protein inhibitor of activated STAT-1(signal transducer and activator of transcription-1)] family. This member contains a putative

zinc-binding motif and a highly acidic region. PIAS1 inhibited STAT1-mediated gene activation in response to interferon when expressed in mammalian cells. It functions in testis as a nuclear receptor transcriptional coregulator and may have a role in AR initiation and maintenance of spermatogenesis. On the other hand, PIAS1 also can function as a SUMO ligase, or possibly as a tightly bound regulator of it, toward p53.

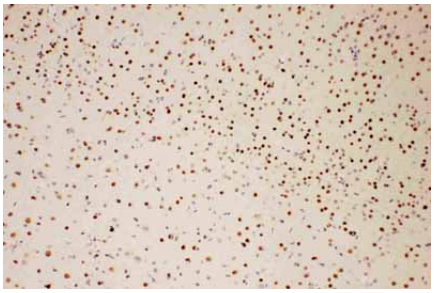
Images



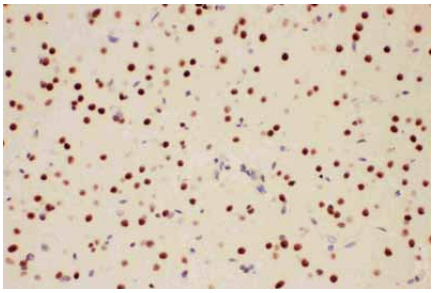
Anti-PIAS1 antibody, ABO11562, ICCICC: A549 Cell



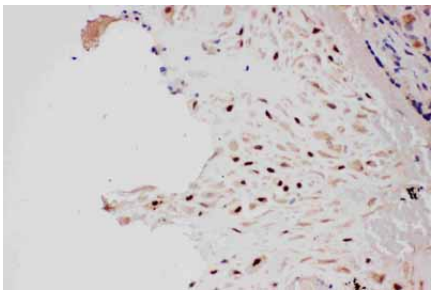
Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Rat Testis Tissue



Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Rat Brain Tissue

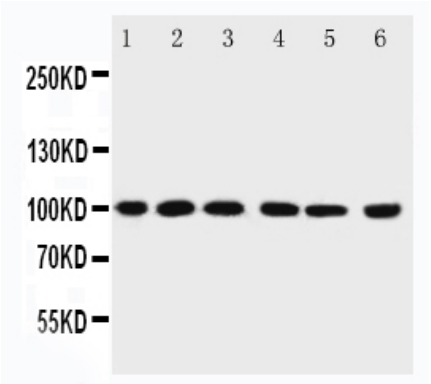


Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Rat Brain Tissue



Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Human Placenta Tissue

Anti-PIAS1 antibody, ABO11562, All Western blottingAll



lanes: Anti-PIAS1(ABO11562) at 0.5ug/mlLane 1: Rat Testis Tissue Lysate at 40ugLane 2: Mouse Testis Tissue Lysate at 40ugLane 3: HELA Whole Cell Lysate at 40ugLane 4: JURKAT Whole Cell Lysate at 40ugLane 5: MCF-7 Whole Cell Lysate at 40ugLane 6: SKOV Whole Cell Lysate at 40ugPredicted bind size: 72KDObserved bind size: 100KD

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