

Anti-PIAS1 Antibody
Catalog # ABO11562

Specification

Anti-PIAS1 Antibody - Product Information

Application	ICC, IHC, WB
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.

Anti-PIAS1 Antibody - 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 MW KDa

Application Details

Immunocytochemistry , 0.5-1 µg/ml, Human, Mouse,
Rat
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By
Heat
Western blot, 0.1-0.5 µg/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. .

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.

Anti-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: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

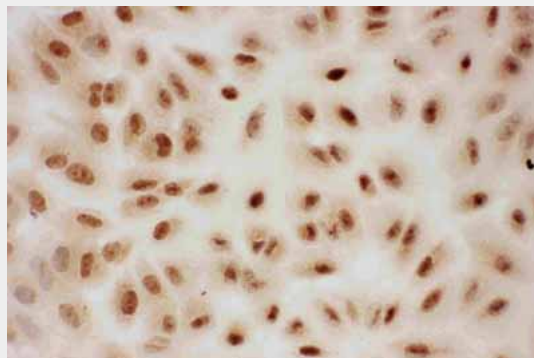
Expressed in numerous tissues with highest level in testis.

Anti-PIAS1 Antibody - Protocols

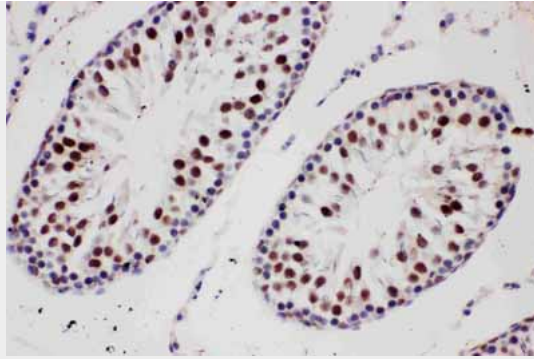
Provided below are standard protocols that you may find useful for product applications.

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

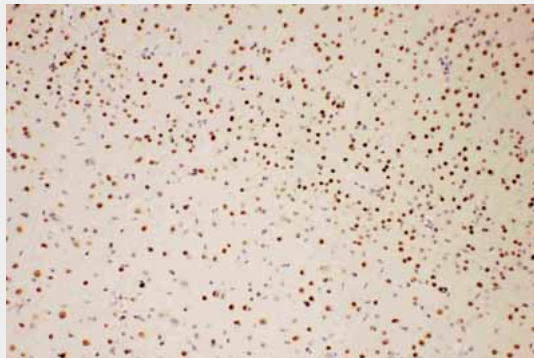
Anti-PIAS1 Antibody - Images



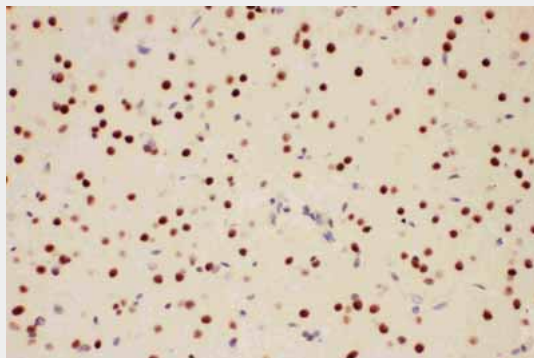
Anti-PIAS1 antibody, ABO11562, ICCICC: A549 Cell



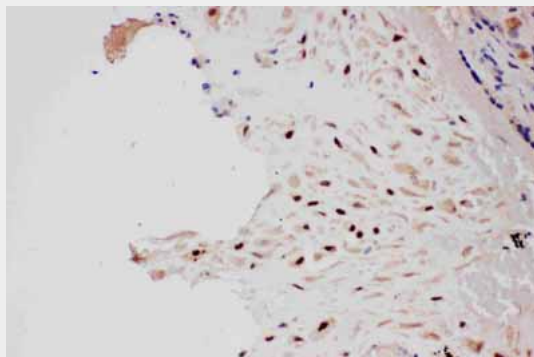
Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Rat Testis Tissue



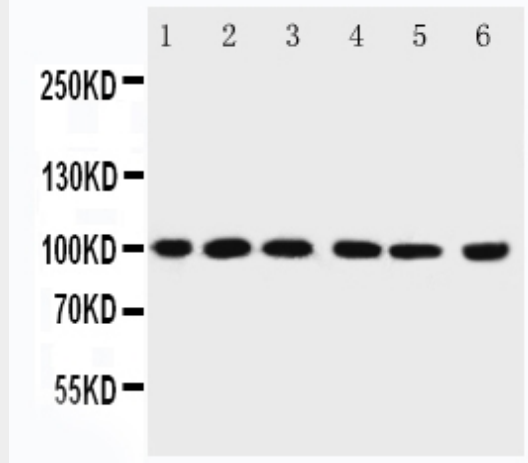
Anti-PIAS1 antibody, ABO11562, IHC(P)IHC(P): Rat Brain Tissue



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 blotting All lanes: Anti-PIAS1(ABO11562) at 0.5ug/ml Lane 1: Rat Testis Tissue Lysate at 40ug Lane 2: Mouse Testis Tissue Lysate at 40ug Lane 3: HELA Whole Cell Lysate at 40ug Lane 4: JURKAT Whole Cell Lysate at 40ug Lane 5: MCF-7 Whole Cell Lysate at 40ug Lane 6: SKOV Whole Cell Lysate at 40ug Predicted bind size: 72KD Observed bind size: 100KD

Anti-PIAS1 Antibody - 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.