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PIAS4/PIASy Rabbit pAb

Catalog # AP99537

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8N2W9
Other Accession	Q8N2W9
Reactivity	Rat
Predicted	Pig, Human, Mouse, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56504
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PIASy
Epitope Specificity	21-120/510
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% 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. Lys-35 is the main site of sumoylation. Sumoylation is required for TCF4 sumoylation and transcriptional activitation. Represses LEF1 transcriptional activity. SUMO1 is the preferred conjugate.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The IL-6-type family of cytokines, which includes IL-6 and a number of similar cytokines and growth factors, plays a significant role in regulating gene activation, proliferation and differentiation. Transcription factors of the STAT family are involved in IL-6 family-mediated signal transduction pathways, and upon activation undergo phosphorylation, dimerization and translocation to the nucleus. The duration and intensity of a cell's response to cytokines can be adjusted by the effect of several regulatory mechanisms. One example involves the protein inhibitor of activated signal transducer and activator of transcription (STAT) family (PIAS family) of proteins, which act as negative regulators of STATs in cytokine signaling. PIAS proteins are able to coactivate steroid receptor-dependent transcription as well. Human PIASy is a 510 amino acid transcriptional corepressor of the androgen receptor (AR). In addition, PIASy may regulate p53-mediated events and may direct p53 into a transactivation-independent mode of apoptosis.

Additional Information

Gene ID	51588
Other Names	PIAS-gamma; PIASY; Piasg; ZMIZ6; PIAS4_HUMAN; PIAS4; Protein inhibitor of activated STAT protein 4; Protein inhibitor of activated STAT protein gamma (PIAS-gamma); 2.3.2.27; Q3UGQ2_MOUSE; Protein inhibitor of activated STAT

	protein gamma; PIAS4_MOUSE; protein inhibitor of activated STAT 4; zinc finger, MIZ-type containing 6
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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	PIAS4 {ECO:0000303|PubMed:32832608, ECO:0000312|HGNC:HGNC:17002}
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:12511558, PubMed:12631292, PubMed:12727872, PubMed:15831457, PubMed:15976810, PubMed:22508508, PubMed:32832608). Mediates sumoylation of ALKBH5, AXIN1, CEBPA, KLF8, GATA2, PARK7, HERC2, MYB, TCF4 and RNF168 (PubMed:12223491, PubMed:12511558, PubMed:12631292, PubMed:12727872, PubMed:12750312, PubMed:15831457, PubMed:15976810, PubMed:16617055, PubMed:22508508, PubMed:34048572). Plays a crucial role as a transcriptional coregulation in various cellular pathways, including the STAT pathway, the p53/TP53 pathway, the Wnt pathway and the steroid hormone signaling pathway (PubMed:11388671). Involved in gene silencing (PubMed:11248056). In Wnt signaling, represses LEF1 and enhances TCF4 transcriptional activities through promoting their sumoylations (PubMed:12727872, PubMed:15831457). Enhances the sumoylation of MTA1 and may participate in its paralog-selective sumoylation (PubMed:21965678). Binds to AT-rich DNA sequences, known as matrix or scaffold attachment regions (MARs/SARs) (By similarity). Catalyzes conjugation of SUMO2 to KAT5 in response to DNA damage, facilitating repair of DNA double-strand breaks (DSBs) via homologous recombination (HR) (PubMed:32832608). Mediates sumoylation of PARP1 in response to PARP1 trapping to chromatin (PubMed:35013556). Mediates sumoylation of KLF8, repressing KLF8 transcriptional activity and cell cycle progression into G(1) phase (PubMed:16617055). Sumoylates ALKBH5 downstream of MAPK8/JNK1 and MAPK9/JNK2 in response to reactive oxygen species (ROS), inhibiting ALKBH5 RNA demethylase activity (PubMed:34048572).
Cellular Location	Nucleus, PML body Note=Colocalizes with SUMO1 and TCF7L2/TCF4 and LEF1 in a subset of PML (promyelocytic leukemia) nuclear bodies.
Tissue Location	Highly expressed in testis and, at lower levels, in spleen, prostate, ovary, colon and peripheral blood leukocytes

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