

#4392 Store at -20C

PIAS4 (D2F12) Rabbit mAb


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H R Mk	Endogenous	75	Rabbit IgG	#Q8N2W9	51588

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	PIAS4 (D2F12) Rabbit mAb detects endogenous levels of total PIAS4 protein.	
Species predicted to react based on 100% sequence homology:	Mouse	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys59 of human PIAS4 protein.	
Background	<p>The protein inhibitor of activated Stat (PIAS) proteins, which include PIAS1, PIAS3, PIASx, and PIASy, were originally characterized based on their interaction with the Stat family of transcription factors (1,2). PIAS1, PIAS3, and PIASx interact with and repress Stat1, Stat3, and Stat4, respectively (1-3). Deletion of PIAS1 leads to inhibition of interferon-inducible genes and increased protection against infection (4). The PIAS family contains a conserved RING domain that has been linked to a function as a small ubiquitin-related modifier (SUMO) ligase, coupling the SUMO conjugating enzyme Ubc9 with its substrate proteins (5,6). Numerous studies have now shown that PIAS family members can regulate the activity of transcription factors through distinct mechanisms, including NF-κB (7,8), c-Jun, p53 (5,9), Oct-4 (10), and Smads (11,12). The activity of PIAS1 is regulated by both phosphorylation and arginine methylation. Inflammatory stimuli can induce IKK-mediated phosphorylation of PIAS1 at Ser90, which is required for its activity (13). In addition, PRMT1 induces arginine methylation of PIAS1 at Arg303 following interferon treatment and is associated with its repressive activity on Stat1 (14).</p> <p>PIAS4, also known as PIASy, is a specific SUMO-E3 ligase for Ets-1 and represses Ets-1 dependent transcription (15). PIAS4 also alters the nuclear localization, reduces the transcriptional activity of C/EBPδ, and enhances cell proliferation and migration (16).</p>	
Background References	<ol style="list-style-type: none"> Liu, B. et al. (1998) <i>Proc Natl Acad Sci USA</i> 95, 10626-31. Chung, C.D. et al. (1997) <i>Science</i> 278, 1803-5. Arora, T. et al. (2003) <i>J Biol Chem</i> 278, 21327-30. Liu, B. et al. (2004) <i>Nat Immunol</i> 5, 891-8. Schmidt, D. and Müller, S. (2002) <i>Proc Natl Acad Sci USA</i> 99, 2872-7. Kotaja, N. et al. (2002) <i>Mol Cell Biol</i> 22, 5222-34. Liu, B. et al. (2005) <i>Mol Cell Biol</i> 25, 1113-23. Tahk, S. et al. (2007) <i>Proc Natl Acad Sci USA</i> 104, 11643-8. Bischof, O. et al. (2006) <i>Mol Cell</i> 22, 783-94. Tolkunova, E. et al. (2007) <i>J Mol Biol</i> 374, 1200-12. Long, J. et al. (2004) <i>Proc Natl Acad Sci USA</i> 101, 99-104. Murdoch, R.N. and Edwards, T. (1992) <i>Biochem Int</i> 28, 1029-37. Liu, B. et al. (2007) <i>Cell</i> 129, 903-14. Weber, S. et al. (2009) <i>Genes Dev</i> 23, 118-32. Nishida, T. et al. (2007) <i>Biochem J</i> 405, 481-8. Zhou, S. et al. (2008) <i>J Biol Chem</i> 283, 20137-48. 	

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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