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PP5 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52705

Product Information

Application	WB
Primary Accession	P53041
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a
Calculated MW	56879

Additional Information

Gene ID	5536
Other Names	FLJ36922;FLJ55954;OTTHUMP00000165834;PP-T;PP5;PPP5;PPP5_HUMAN;PPP5C;PPT;Protein phosphatase 5, catalytic subunit;Protein phosphatase T;Serine/threonine protein phosphatase 5;Serine/threonine-protein phosphatase 5.
Dilution	WB~~1:1000
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	PPP5C
Synonyms	PPP5
Function	Serine/threonine-protein phosphatase that dephosphorylates a myriad of proteins involved in different signaling pathways including the kinases CSNK1E, ASK1/MAP3K5, PRKDC and RAF1, the nuclear receptors NR3C1, PPARG, ESR1 and ESR2, SMAD proteins and TAU/MAPT (PubMed:14734805, PubMed:14764652, PubMed:14871926, PubMed:15383005, PubMed:15546861, PubMed:16260606, PubMed:16790549, PubMed:16892053, PubMed:19176521, PubMed:19948726, PubMed:21144835, PubMed:22399290, PubMed:22781750, PubMed:23102700, PubMed:30699359, PubMed:9000529). Implicated in wide ranging cellular processes, including apoptosis, differentiation, DNA damage response, cell survival, regulation of ion channels or circadian rhythms, in

	response to steroid and thyroid hormones, calcium, fatty acids, TGF-beta as well as oxidative and genotoxic stresses (PubMed:14734805, PubMed:14764652, PubMed:14871926, PubMed:15383005, PubMed:15546861, PubMed:16260606, PubMed:16790549, PubMed:16892053, PubMed:19176521, PubMed:19948726, PubMed:21144835, PubMed:22399290, PubMed:22781750, PubMed:23102700, PubMed:30699359, PubMed:9000529). Participates in the control of DNA damage response mechanisms such as checkpoint activation and DNA damage repair through, for instance, the regulation ATM/ATR-signaling and dephosphorylation of PRKDC and TP53BP1 (PubMed:14871926, PubMed:16260606, PubMed:21144835). Inhibits ASK1/MAP3K5-mediated apoptosis induced by oxidative stress (PubMed:23102700). Plays a positive role in adipogenesis, mainly through the dephosphorylation and activation of PPARG transactivation function (By similarity). Also dephosphorylates and inhibits the anti- adipogenic effect of NR3C1 (By similarity). Regulates the circadian rhythms, through the dephosphorylation and activation of CSNK1E (PubMed:16790549). May modulate TGF-beta signaling pathway by the regulation of SMAD3 phosphorylation and protein expression levels (PubMed:22781750). Dephosphorylates and may play a role in the regulation of TAU/MAPT (PubMed:15546861). Through their dephosphorylation, may play a role in the regulation of ions channels such as KCNH2 (By similarity). Dephosphorylate FNIP1, disrupting interaction with HSP90AA1/Hsp90 (PubMed:30699359).
Cellular Location	Nucleus. Cytoplasm. Cell membrane. Note=Predominantly nuclear (PubMed:15383005). But also present in the cytoplasm (PubMed:15383005) Translocates from the cytoplasm to the plasma membrane in a RAC1-dependent manner (PubMed:19948726).
Tissue Location	Ubiquitous..

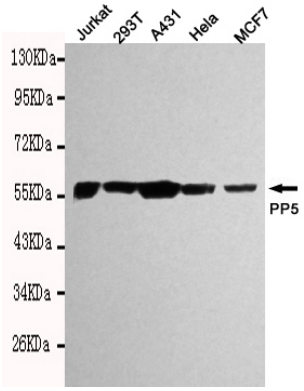
Background

Serine/threonine-protein phosphatase that dephosphorylates a myriad of proteins involved in different signaling pathways including the kinases CSNK1E, ASK1/MAP3K5, PRKDC and RAF1, the nuclear receptors NR3C1, PPARG, ESR1 and ESR2, SMAD proteins and TAU/MAPT. Implicated in wide ranging cellular processes, including apoptosis, differentiation, DNA damage response, cell survival, regulation of ion channels or circadian rhythms, in response to steroid and thyroid hormones, calcium, fatty acids, TGF-beta as well as oxidative and genotoxic stresses. Participates in the control of DNA damage response mechanisms such as checkpoint activation and DNA damage repair through, for instance, the regulation ATM/ATR-signaling and dephosphorylation of PRKDC and TP53BP1. Inhibits ASK1/MAP3K5-mediated apoptosis induced by oxidative stress. Plays a positive role in adipogenesis, mainly through the dephosphorylation and activation of PPARG transactivation function. Also dephosphorylates and inhibits the anti-adipogenic effect of NR3C1. Regulates the circadian rhythms, through the dephosphorylation and activation of CSNK1E. May modulate TGF-beta signaling pathway by the regulation of SMAD3 phosphorylation and protein expression levels. Dephosphorylates and may play a role in the regulation of TAU/MAPT. Through their dephosphorylation, may play a role in the regulation of ions channels such as KCNH2.

References

Kalnine N.,et al.Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Chen M.X.,et al.EMBO J. 13:4278-4290(1994).
Yong W.H.,et al.Genomics 29:533-536(1995).
Grimwood J.,et al.Nature 428:529-535(2004).

Images



Western blot detection of PP5 in Hela,Jurkat,293T,A431 and MCF7 cell lysates using PP5 mouse mAb (1:1000 diluted).Predicted band size: 57kDa.Observed band size: 57kDa.