

# PIN1 Antibody [Knockdown Validated]

Mouse Monoclonal Antibody (Mab)

Catalog # AW5186

## Product Information

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<b>Application</b>	WB, IHC, IHC-P, FC
<b>Primary Accession</b>	<a href="#">Q13526</a>
<b>Reactivity</b>	Human, Mouse
<b>Predicted</b>	Rat
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Calculated MW</b>	18243
<b>Isotype</b>	IgG1
<b>Antigen Source</b>	Human

## Additional Information

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<b>Gene ID</b>	5300
<b>Antigen Region</b>	1-143
<b>Other Names</b>	PIN1;Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1; Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1; Peptidyl-prolyl cis-trans isomerase Pin1; Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1; Rotamase Pin1
<b>Dilution</b>	WB~~1:1000 IHC~~1:100~500 IHC-P~~1:100~500 FC~~1:25
<b>Target/Specificity</b>	Purified His-tagged PIN1 protein was used to produced this monoclonal antibody.
<b>Format</b>	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	PIN1 Antibody [Knockdown Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	PIN1
<b>Function</b>	Peptidyl-prolyl cis/trans isomerase (PPIase) that binds to and isomerizes specific phosphorylated Ser/Thr-Pro (pSer/Thr-Pro) motifs

(PubMed:[21497122](#), PubMed:[23623683](#), PubMed:[29686383](#)). By inducing conformational changes in a subset of phosphorylated proteins, acts as a molecular switch in multiple cellular processes (PubMed:[21497122](#), PubMed:[22033920](#), PubMed:[23623683](#)). Displays a preference for acidic residues located N-terminally to the proline bond to be isomerized. Regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Down-regulates kinase activity of BTK (PubMed:[16644721](#)). Can transactivate multiple oncogenes and induce centrosome amplification, chromosome instability and cell transformation. Required for the efficient dephosphorylation and recycling of RAF1 after mitogen activation (PubMed:[15664191](#)). Binds and targets PML and BCL6 for degradation in a phosphorylation-dependent manner (PubMed:[17828269](#)). Acts as a regulator of JNK cascade by binding to phosphorylated FBXW7, disrupting FBXW7 dimerization and promoting FBXW7 autoubiquitination and degradation: degradation of FBXW7 leads to subsequent stabilization of JUN (PubMed:[22608923](#)). May facilitate the ubiquitination and proteasomal degradation of RBBP8/CtIP through CUL3/KLHL15 E3 ubiquitin-protein ligase complex, hence favors DNA double-strand repair through error-prone non-homologous end joining (NHEJ) over error-free, RBBP8-mediated homologous recombination (HR) (PubMed:[23623683](#), PubMed:[27561354](#)). Upon IL33-induced lung inflammation, catalyzes cis-trans isomerization of phosphorylated IRAK3/IRAK-M, inducing IRAK3 stabilization, nuclear translocation and expression of pro-inflammatory genes in dendritic cells (PubMed:[29686383](#)). Catalyzes cis-trans isomerization of phosphorylated phosphoglycerate kinase PGK1 under hypoxic conditions to promote its binding to the TOM complex and targeting to the mitochondrion (PubMed:[26942675](#)). Acts as a negative regulator of adipocyte browning by binding to phosphorylated PRDM16, targeting PRDM16 for degradation (By similarity).

#### Cellular Location

Nucleus. Nucleus speckle. Cytoplasm Note=Colocalizes with NEK6 in the nucleus (PubMed:16476580). Mainly localized in the nucleus but phosphorylation at Ser-71 by DAPK1 results in inhibition of its nuclear localization (PubMed:21497122)

#### Tissue Location

Expressed in immune cells in the lung (at protein level) (PubMed:29686383). The phosphorylated form at Ser-71 is expressed in normal breast tissue cells but not in breast cancer cells

## Background

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Essential PPIase that regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Displays a preference for an acidic residue N-terminal to the isomerized proline bond. Catalyzes pSer/Thr-Pro cis/trans isomerizations. Down-regulates kinase activity of BTK. Can transactivate multiple oncogenes and induce centrosome amplification, chromosome instability and cell transformation. Required for the efficient dephosphorylation and recycling of RAF1 after mitogen activation.

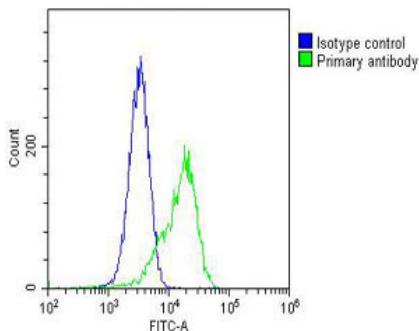
## References

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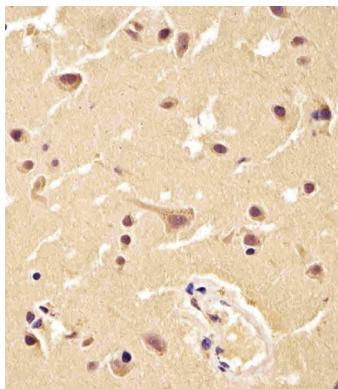
Ebert L., et al. Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.  
Lu K.P., et al. Nature 380:544-547(1996).  
Kalinine N., et al. Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.  
Ota T., et al. Nat. Genet. 36:40-45(2004).  
Mural R.J., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

## Images

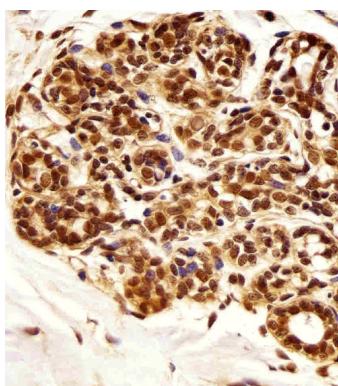
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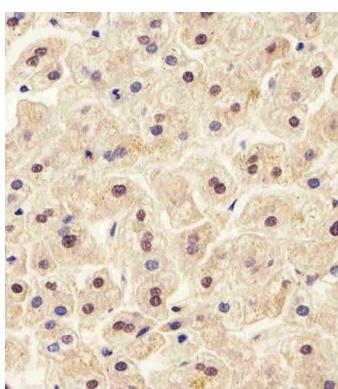
Overlay histogram showing Hela cells stained with AW5649(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AW5649, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1 $\mu$ g/1 $\times$ 10<sup>6</sup> cells) used under the same conditions. Acquisition of >10, 000 events was performed.



AW5186 staining PIN1 in human brain tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

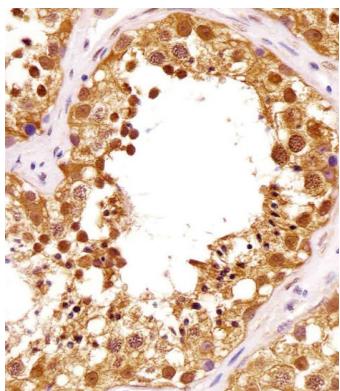


Immunohistochemical analysis of paraffin-embedded H. breast section using PIN1 Antibody(Cat#AW5186). AW5186 was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

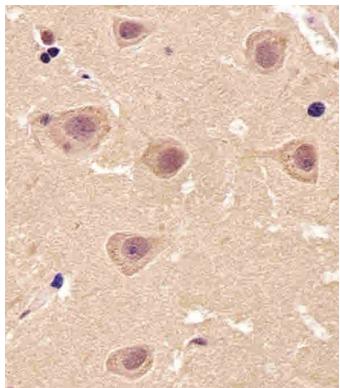


AW5186 staining PIN1 in human liver tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

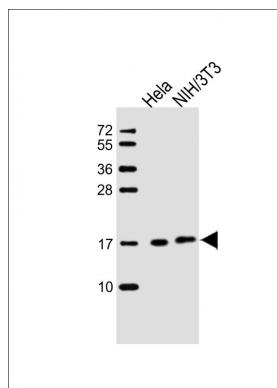
AW5186 staining PIN1 in human testis tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody



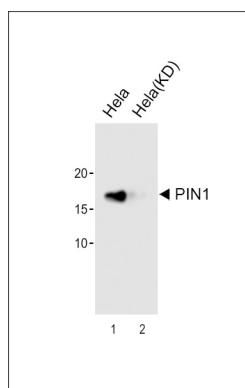
was used as the secondary antibody.



AW5186 staining PIN1 in human brain tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyclonal antibody was used as the secondary antibody.



All lanes : Anti-PIN1 at 1:2000 dilution Lane 1: HeLa whole cell lysate Lane 2: NIH/3T3 whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 18 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-PIN1 Antibody at 1:2000 dilution Lane 1: HeLa Lane 2: HeLa-Knockdown Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution.

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