10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PIN1 Antibody [Knockdown Validated]

Mouse Monoclonal Antibody (Mab)
Catalog # AM2212b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q13526
Reactivity	Human, Mouse, Rat, Green Monkey
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	855CT1.7.5
Calculated MW	18243

Additional Information

Gene ID	5300
Other Names	Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1, Peptidyl-prolyl cis-trans isomerase Pin1, PPIase Pin1, Rotamase Pin1, PIN1
Target/Specificity	Purified His-tagged PIN1 protein was used to produced this monoclonal antibody.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	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.
Storage	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.
Precautions	PIN1 Antibody [Knockdown Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIN1
Function	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

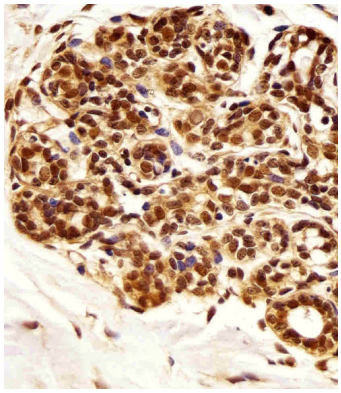
Essential PPIase that regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Displays a preference for an acidic residue N-terminal to the isomerized proline bond. Catalyzes pSer/Thr-Pro cis/trans isomerizations. Down-regulates kinase activity of BTK. Can 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

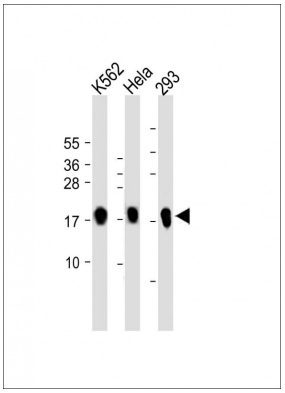
Ebert L., et al. Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
Lu K.P., et al. Nature 380:544-547(1996).
Kalnine N., et al. Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.
Ota T., et al. Nat. Genet. 36:40-45(2004).
Mural R.J., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

Images

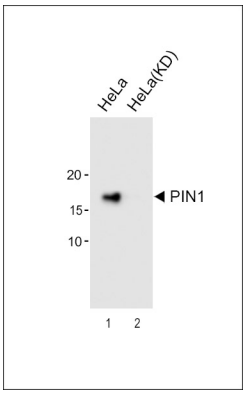
Immunohistochemical analysis of paraffin-embedded H. breast section using PIN1 Antibody(Cat#AM2212B). AM2212B was diluted at 1:25 dilution. A undiluted



biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



All lanes : Anti-PIN1 at 1:2000 dilution Lane 1: K562 whole cell lysate Lane 2: Hela whole cell lysate Lane 3: 293 whole cell lysate Lysates/proteins at 20 µg 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 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Predicted band size : 18 kDa

Citations

- Hyperthermia depletes Oct4 in mouse blastocysts and stem cells
- RACK1 Promotes Self-Renewal and Chemoresistance of Cancer Stem Cells in Human Hepatocellular Carcinoma through Stabilizing Nanog.
- Knockdown of the prolyl isomerase Pin1 inhibits Hep-2 cells growth, migration and invasion by targeting β-catenin signaling pathway.