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Anti-PIM1 Picoband Antibody

Catalog # ABO12006

Product Information

Application	WB
Primary Accession	P11309
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Serine/threonine-protein kinase pim-1(PIM1) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5292
Other Names	Serine/threonine-protein kinase pim-1, 2.7.11.1, PIM1
Calculated MW	35686
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Isoform 2: Cytoplasm. Nucleus.
Tissue Specificity	Expressed primarily in cells of the hematopoietic and germline lineages. Isoform 1 and isoform 2 are both expressed in prostate cancer cell lines. .
Source	Eukaryota
Protein Name	Serine/threonine-protein kinase pim-1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human PIM1(373-404aa EEIQNHPWMQDVLLPQETAEIHLHSLSPGPSK), different from the related mouse sequence by seven amino acids and from the related rat sequence by two amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated

	freezing and thawing.
Sequence Similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. PIM subfamily.

Protein Information

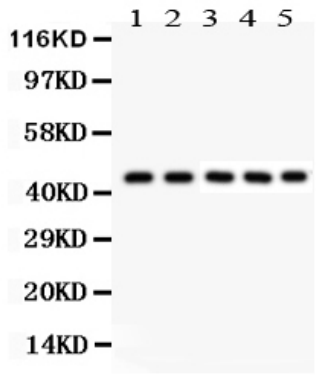
Name	PIM1
Function	Proto-oncogene with serine/threonine kinase activity involved in cell survival and cell proliferation and thus providing a selective advantage in tumorigenesis (PubMed:15528381, PubMed:1825810, PubMed:31548394). Exerts its oncogenic activity through: the regulation of MYC transcriptional activity, the regulation of cell cycle progression and by phosphorylation and inhibition of proapoptotic proteins (BAD, MAP3K5, FOXO3) (PubMed:18593906). Phosphorylation of MYC leads to an increase of MYC protein stability and thereby an increase of transcriptional activity (By similarity). The stabilization of MYC exerted by PIM1 might explain partly the strong synergism between these two oncogenes in tumorigenesis (By similarity). Mediates survival signaling through phosphorylation of BAD, which induces release of the anti-apoptotic protein Bcl-X(L)/BCL2L1 (By similarity). Phosphorylation of MAP3K5, another proapoptotic protein, by PIM1, significantly decreases MAP3K5 kinase activity and inhibits MAP3K5-mediated phosphorylation of JNK and JNK/p38MAPK subsequently reducing caspase-3 activation and cell apoptosis (PubMed:19749799). Stimulates cell cycle progression at the G1-S and G2-M transitions by phosphorylation of CDC25A and CDC25C (PubMed:16356754). Phosphorylation of CDKN1A, a regulator of cell cycle progression at G1, results in the relocation of CDKN1A to the cytoplasm and enhanced CDKN1A protein stability (PubMed:12431783). Promotes cell cycle progression and tumorigenesis by down-regulating expression of a regulator of cell cycle progression, CDKN1B, at both transcriptional and post-translational levels (PubMed:18593906). Phosphorylation of CDKN1B, induces 14-3-3 proteins binding, nuclear export and proteasome-dependent degradation (PubMed:18593906). May affect the structure or silencing of chromatin by phosphorylating HP1 gamma/CBX3 (PubMed:10664448). Also acts as a regulator of homing and migration of bone marrow cells involving functional interaction with the CXCL12-CXCR4 signaling axis (By similarity). Acts as a positive regulator of mTORC1 signaling by mediating phosphorylation and inhibition of DEPDC5 component of the GATOR1 complex (PubMed:31548394). Acts as a negative regulator of innate immunity by mediating phosphorylation and inactivation of GBP1 in absence of infection: phosphorylation of GBP1 induces interaction with 14-3-3 protein sigma (SFN) and retention in the cytosol (PubMed:37797010). Also phosphorylates and activates the ATP-binding cassette transporter ABCG2, allowing resistance to drugs through their excretion from cells (PubMed:18056989). Promotes brown adipocyte differentiation (By similarity).
Cellular Location	[Isoform 1]: Cytoplasm. Nucleus.
Tissue Location	Expressed primarily in cells of the hematopoietic and germline lineages. Isoform 1 and isoform 2 are both expressed in prostate cancer cell lines.

Background

Proto-oncogene serine/threonine-protein kinase Pim-1 is an enzyme that in humans is encoded by the PIM1 gene. It is mapped to 6p21.2. Primarily expressed in spleen, thymus, bone marrow, prostate, oral epithelial, hippocampus and fetal liver cells, Pim-1 has also been found to be highly expressed in cell cultures isolated from human tumors. Pim-1 is mainly involved in cell cycle progression, apoptosis and transcriptional

activation, as well as more general signal transduction pathways. It has been found a physiologic role of the PIM1 oncogene during hematopoietic development and a deregulation of the gene in various leukemias. PIM1 also has a role in cardioprotection downstream of AKT activation.

Images



Anti- PIM1Picoband antibody, ABO12006, Western blottingAll lanes: Anti PIM1 (ABO12006) at 0.5ug/mlLane 1: U20S Whole Cell Lysate at 40ugLane 2: A549 Whole Cell Lysate at 40ugLane 3: COLO320 Whole Cell Lysate at 40ugLane 4: SW620 Whole Cell Lysate at 40ugLane 5: JURKAT Whole Cell Lysate at 40ugPredicted bind size: 45KDObserved bind size: 45KD

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