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PIM2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7933a

Product Information

Application	WB, IP, IHC-P, E
Primary Accession	Q9P1W9
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	34190
Antigen Region	277-308

Additional Information

Gene ID	11040
Other Names	Serine/threonine-protein kinase pim-2, Pim-2h, PIM2
Target/Specificity	This PIM2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 277-308 amino acids from the C-terminal region of human PIM2.
Dilution	WB~~1:1000 IP~~1:50~100 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	PIM2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIM2
Function	Proto-oncogene with serine/threonine kinase activity involved in cell survival and cell proliferation. Exerts its oncogenic activity through: the regulation of MYC transcriptional activity, the regulation of cell cycle progression, the regulation of cap-dependent protein translation and through survival signaling by phosphorylation of a pro- apoptotic protein, BAD.

Phosphorylation of MYC leads to an increase of MYC protein stability and thereby an increase transcriptional activity. The stabilization of MYC exerted by PIM2 might explain partly the strong synergism between these 2 oncogenes in tumorigenesis. Regulates cap-dependent protein translation in a mammalian target of rapamycin complex 1 (mTORC1)-independent manner and in parallel to the PI3K-Akt pathway. Mediates survival signaling through phosphorylation of BAD, which induces release of the anti-apoptotic protein Bcl-X(L)/BCL2L1. Promotes cell survival in response to a variety of proliferative signals via positive regulation of the I-kappa-B kinase/NF-kappa-B cascade; this process requires phosphorylation of MAP3K8/COT. Promotes growth factor-independent proliferation by phosphorylation of cell cycle factors such as CDKN1A and CDKN1B. Involved in the positive regulation of chondrocyte survival and autophagy in the epiphyseal growth plate.

Tissue Location

Highly expressed in hematopoietic tissues, in leukemic and lymphoma cell lines, testis, small intestine, colon and colorectal adenocarcinoma cells. Weakly expressed in normal liver, but highly expressed in hepatocellular carcinoma tissues

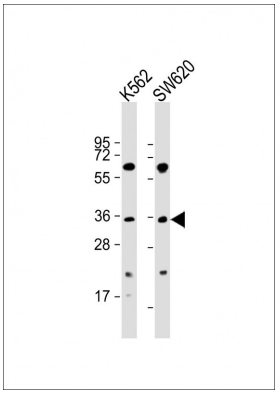
Background

Pim proteins (Pim-1, Pim-2 and Pim-3) are oncogene-encoded serine/threonine kinases. Pim-2 is highly homologous to Pim-1 with similar oncogenic functions. Pim-2 overexpression promotes resistance to a host of apoptotic stimuli; its expression is negatively regulated by growth factor depletion. Increased levels of Pim-2 has also been observed in certain cancers.

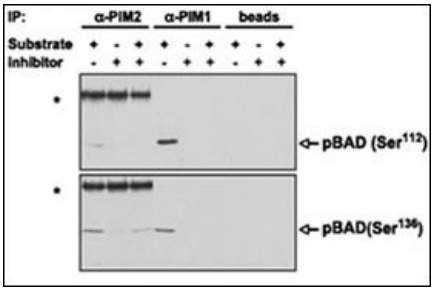
References

Yan, B., et al., J. Biol. Chem. 278(46):45358-45367 (2003).
Baytel, D., et al., Biochim. Biophys. Acta 1442 (2-3), 274-285 (1998).

Images

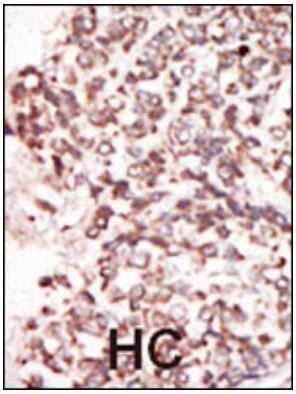


All lanes : Anti-PIM2 Antibody (D292) at 1:2000 dilution Lane 1: K562 whole cell lysate Lane 2: SW620 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



PIM proteins were immunoprecipitated from MV4;11 cells and the agarose-protein A-immunoprecipitate complex was tested for its ability to phosphorylate BAD in vitro in the presence or absence of K00135. Phosphorylation of BAD (both on Ser112 and Ser136, detected by WB with phospho-specific antibodies) was abrogated on addition of the compound. Asterisks, strong bands corresponding to the heavy chain of the anti-PIM2 rabbit antibody recognized by the antirabbit immunoglobulin G secondary antibody. Beads alone

(without anti-PIM antibodies) were incubated with the MV4;11 extract and used for the same in vitro phosphorylation reaction as a negative control.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Structural analysis identifies imidazo[1,2-b]pyridazines as PIM kinase inhibitors with in vitro antileukemic activity.