

Rabbit Anti-PIM1+PIM3 antibody

SL10305R

Product Name PIM1+PIM3

Chinese Name 丝氨酸/苏氨酸激酶蛋白 PIM1+PIM3 抗体

Alias Oncogene PIM 1; Oncogene PIM1; PIM 1; pim 1 kinase 44 kDa isoform; Pim 1 kinase; pim 1 oncogene (proviral integration site 1); Pim 1 oncogene; PIM; PIM1; pim1 kinase 44 kDa isoform; PIM1_HUMAN; Pim2; PIM3; Proto oncogene serine/threonine protein kinase Pim 1; Proto-oncogene serine/threonine-protein kinase Pim-1; Proviral integration site 1; Proviral integration site 2; Kid 1; Kid-1; Kid1; Kinase induced by depolarization; ONCOGENE PIM 3; ONCOGENE PIM3; PIM 3; Pim 3 oncogene; PIM3; Pim3 oncogene; PIM3_HUMAN; Protein kinase Kid 1; Protein kinase Kid1; Serine/threonine kinase Pim 3; Serine/threonine kinase Pim3; Serine/threonine protein kinase Pim 3; Serine/threonine protein kinase Pim3; Serine/threonine-protein kinase Pim-3.

Immunogen Species Rabbit

Clonality Polyclonal

React Species Mouse,Rat(predicted:Human,Chicken,Dog,Pig,Cow,Rabbit,Sheep,GuineaPig)
WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/test
(Paraffin sections need antigen repair)

Applications not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 45kDa

Cellular localization The nucleus cytoplasmic The cell membrane

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human PIM1+PIM3: 251-350/404

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed

[PubMed](#)

PIM1 is a member of the serine/threonine kinase PIM oncogene family. PIM1 has been implicated in lymphomagenesis, cell proliferation, apoptosis, differentiation and tumorigenesis. The PIM1 protein kinase is upregulated in prostate cancer. The Pim family serine/threonine protein kinases were first identified in studies examining genes targeted for proviral insertion in murine leukemia virus-induced T lymphomas. Increased levels of Pim kinases predispose cells to lymphomagenesis and enhance the activity of mitogenic proteins such as p100, c-Myb, and Cdc25A. In addition, Pim kinases are also involved in modulation of synaptic strength in neurons and anti-apoptotic signaling in hematopoietic progenitor cells. Pim-3, a member of the proto-oncogene Pim family that expresses serine/threonine kinase activity, shares significant homology with Pim-1 serine/threonine protein kinases. Pim-3 may function as a mediator of synaptic plasticity in the brain and is presumably involved in the anti-apoptosis process and cell cycle progression as well as the proliferation of human hepatoma cell lines. The Pim-3 protein is widely expressed, however no expression is observed in the colon, thymus, or small intestine.

Function:

Proto-oncogene with serine/threonine kinase activity involved in cell survival and cell proliferation and thus providing a selective advantage in tumorigenesis. 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). Phosphorylation of MYC leads to an increase of MYC protein stability and thereby an increase of transcriptional activity. The stabilization of MYC exerted by PIM1 might explain partly the strong synergism between these two oncogenes in tumorigenesis. Mediates survival signaling through phosphorylation of BAD, which induces release of the anti-apoptotic protein Bcl-X(L)/BCL2L1. Phosphorylation of MAP3K5, an other 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. Stimulates cell cycle progression at the G1-S and G2-M transitions by phosphorylation of CDC25A and CDC25C. 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. Promote cell cycle progression and tumorigenesis by down-regulating expression of a regulator of cell cycle progression, CDKN1B, at both transcriptional and post-translational levels. Phosphorylation of CDKN1B, induces 14-3-3-proteins binding, nuclear export and proteasome-dependent degradation. May affect the structure or silencing of chromatin by phosphorylating HP1 gamma/CBX3. Acts also as a regulator of homing and migration of bone marrow cells involving functional interaction with the CXCL12-CXCR4 signaling axis.

**Product
Detail**

Subunit:

Isoform 2 is isolated as a monomer whereas isoform 1 complexes with other proteins. Binds to RP9. Isoform 1, but not isoform 2, binds BMX. Isoform 2 interacts with CDKN1B and FOXO3. Interacts with BAD. Interacts with PPP2CA; this interaction promotes dephosphorylation of PIM1, ubiquitination and proteasomal degradation. Interacts with HSP90, this interaction stabilizes PIM1 protein levels. Interacts (ubiquitinated form) with HSP70 and promotes its proteasomal degradation. Interacts with CDKN1A. Interacts with CDC25C. Interacts (via N-terminal 96 residues) with CDC25A. Interacts with MAP3K5. Interacts with MYC.

Subcellular Location:

Isoform 2: Cytoplasm. Nucleus. Isoform 1: Cell membrane.

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.

Post-translational modifications:

Autophosphorylated on both serine/threonine and tyrosine residues. Phosphorylated. Interaction with PPP2CA promotes dephosphorylation. Ubiquitinated, leading to proteasomal degradation.

Similarity:

Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. PIM subfamily.
Contains 1 protein kinase domain.

SWISS:

P11309

Gene ID:

5292

415116

Database links:

[Entrez Gene: 5292](#) Human

[Entrez Gene: 18712](#) Mouse

[Entrez Gene: 24649](#) Rat

[Omim: 164960](#) Human

[SwissProt: P11309](#) Human



[SwissProt: P06803](#) Mouse
[SwissProt: P26794](#) Rat
[Unigene: 81170](#) Human
[Unigene: 405293](#) Mouse
[Unigene: 485038](#) Mouse
[Unigene: 34888](#) Rat
[Entrez Gene: 415116](#) Human
[Entrez Gene: 223775](#) Mouse
[Omim: 610580](#) Human
[SwissProt: Q86V86](#) Human
[SwissProt: P58750](#) Mouse
[Unigene: 530381](#) Human
[Unigene: Hs.530381](#) Human
[Unigene: 400129](#) Mouse