PIM1 Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	PIM1, Monoclonal Antibody
Full Product Name	PIM1 (pim-1 Oncogene, PIM) (MaxLight 650)
Product Gene Name	anti-PIM1 antibody
Product Synonym Names	pim-1 Oncogene; PIM
Clonality	Monoclonal
Isotype	IgG2a,k
Clone Number	6F6
Host	Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight650.
Purity/Purification	Purified
Specificity	Recognizes PIM1.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight650 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	35,686 Da
OMIM	164960
3D Structure	ModBase 3D Structure for P11309
Immunogen	PIM1 (AAH20224.1, 1aa-100aa) partial recombinant protein with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	MLLSKINSLAHLRAAPCNDLHATKLAPGKEKEPLESQYQVGPLLGSGGFGSVYSGIRVSDNLPVAIKHVEKDRISDWGELPNGTRVPMEVVLLKKVSSGF
Conjugate	MaxLight650
Product Categories/Family for anti-PIM1 antibody	Antibodies; Oncoproteins
Applications Tested/Suitable for anti-PIM1 antibody	FLISA, Western Blot (WB)
Application Notes for anti-PIM1 antibody	Applications are based on unconjugated antibody.
Related Product Information for anti-PIM1 antibody	The protooncogene PIM1 encodes a protein kinase upregulated in prostate cancer (Dhanasekaran et al., 2001 [PubMed 11518967]). [supplied by OMIM]

Other Notes	Small volumes of anti-PIM1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PIM1 purchase	MBS6229273 is an antibody targeting PIM1. Also known as PIM1 (pim-1 Oncogene, PIM) (MaxLight 650). Host: Mouse.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PIM1. It may not necessarily be applicable to this product.

NCBI GI #	18044378
NCBI GeneID	5292
NCBI Accession #	AAH20224.1
UniProt Primary Accession #	P11309
UniProt Secondary Accession #	Q38RT9; Q5T7H7; Q96RG3
UniProt Related Accession #	P11309
NCBI Official Full Name	Pim-1 oncogene
NCBI Official Synonym Full Names	Pim-1 proto-oncogene, serine/threonine kinase
NCBI Official Symbol	PIM1
NCBI Official Synonym Symbols	PIM
UniProt Protein Name	Serine/threonine-protein kinase pim-1
Protein Family	Protein
UniProt Gene Name	PIM1
UniProt Entry Name	PIM1_HUMAN
NCBI Protein Information	serine/threonine-protein kinase pim-1
NCBI Summary for PIM1	The protein encoded by this gene belongs to the Ser/Thr protein kinase family, and PIM subfamily. This gene is expressed primarily in B-lymphoid and myeloid cell lines, and is overexpressed in hematopoietic malignancies and in prostate cancer. It plays a role in signal transduction in blood cells, contributing to both cell proliferation and survival, and thus provides a selective advantage in tumorigenesis. Both the human and orthologous mouse genes have been reported to encode two isoforms (with preferential cellular localization) resulting from the use of alternative in-frame translation initiation codons, the upstream non-AUG (CUG) and downstream AUG codons (PMIDs:16186805, 1825810).[provided by RefSeq, Aug 2011]

UniProt Comments for PIM1	Pim1: a proto-oncogene serine/threonine kinase 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 exerced 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 ASK1 an other proapoptotic protein, by PIM1, significantly decreases ASK1 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 p21Cip1, a regulator of cell cycle progression at G1, results in the relocation of p21Cip1 to the cytoplasm and enhanced p21Cip1 protein stability. Promote cell cycle progression and tumorigenesis by down-regulating expression of a regulator of cell cycle progression, p27Kip1, at both transcriptional and post- translational levels. Phosphorylation of p27Kip1,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. 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 p27Kip1 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. Ubiquitinated form interacts with HSP70 and promotes its proteosomal degradation. Strongly induced in leukocytes by the JAK/STAT pathway in response to cytokines. Induced by different cellular stresses, heat shock and cytotoxic agents. Expressed primarily in cells of the hematopoietic and germline lineages. 2 isoforms of the human protein are produced by alternative initiation. Both isoforms are expressed in prostate cancer cell lines. Protein type: Protein kinase, CAMK; Oncoprotein; Protein kinase, Ser/Thr (non-receptor); Kinase, protein; EC 2.7.11.1; CAMK group; PIM family Chromosomal Location of Human Ortholog: 6p21.2 Cellular Component: cytoplasm; plasma membrane; nucleus Molecular Function: protein serine/threonine kinase activity; protein binding; manganese ion binding; transcription factor binding; ribosomal small subunit binding; ATP binding Biological Process: cell proliferation; apoptosis; negative regulation of transcription factor activity; multicellular organismal development; protein amino acid autophosphorylation; regulation of mitotic cell cycle; cell cycle; G1/S-specific positive regulation of cyclin-dependent protein kinase activity; hyaluronan metabolic process; protein amino acid phosphorylation; negative regulation of apoptosis
Research Articles on PIM1	**1.** Results provide evidence that glucose deprivation is one of the mechanisms that leads to elevated Pim1 expression in colorectal cancer (CRC), and Pim1 upregulation ensures CRC growth in response to glucose deprivation by facilitating the Warburg effect in a compensatory way.
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