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PIM1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7932a

Specification

PIM1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P11309

PIM1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 5292

Other Names
Serine/threonine-protein kinase pim-1, PIM1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7932a was selected from the C-term region of human PIM1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PIM1 Antibody (C-term) Blocking Peptide - Protein Information

Name PIM1

Function
Proto-oncogene with serine/threonine

PIM1 Antibody (C-term) Blocking Peptide - Background

PIM1, which belongs to the Serine/Threonine protein kinase family, is thought to play a role in signal transduction in blood cells. The protooncogene PIM1 encodes a protein kinase upregulated in prostate cancer. It may affect the structure or silencing of chromatin by phosphorylating HP1 gamma/CBX3. PIM1 is expressed primarily in cells of the hematopoietic and germ line lineages.

PIM1 Antibody (C-term) Blocking Peptide - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).Pasqualucci, L., et al., Nature 412(6844):341-346 (2001).Koike, N., et al., FEBS Lett. 467(1):17-21 (2000).Reeves, R., et al., Gene 90(2):303-307 (1990).Telerman, A., et al., Mol. Cell. Biol. 8(4):1498-1503 (1988).

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, 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. 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. 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. 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. 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.

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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.

PIM1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

PIM1 Antibody (C-term) Blocking Peptide - Citations

- Hypoxia-inducible proto-oncogene Pim-1 is a prognostic marker in pancreatic ductal adenocarcinoma.