PIM1

Identity

Hugo	**PIM1**
Location	6p21.2

DNA/RNA

Description	5 kb of genomic DNA; 6 exons
Transcription	2.6 kb mRNA; coding sequence 941 bp

Protein

Description	313 amino acids, 36 kDa; protein kinase domain, ATP-binding site
Expression	plays a role in signal transduction in blood cells
Function	serine/threonine-protein kinase; regulated by hematopoietic cytokine receptors; synergy with c-MYC in cell proliferation and in apoptosis induction (through an enhancement of the activation of caspase-3 -like proteases; Cdc25A (cell cycle phosphatase) is a substrate for Pim-1

Implicated in

Entity	t(3;6)(q27;p21.2) diffuse large B-cell lymphoma (DLCL) --> BCL6 / PIM1
Note	only 1 case to date
Disease	PROGNOSIS
Hybrid/Mutated Gene	5' PIM1 - 3' BCL6 fusion transcript; it is supposed that substitution of the promoter of BCL6 may be responsible for BCL6 deregulation

External links

	Nomenclature
Hugo	PIM1
GDB	PIM1
Entrez_Gene	PIM1 5292 pim-1 oncogene
	Cards
Atlas	**PIM1ID261**
GeneCards	PIM1
Ensembl	PIM1
Genatlas	PIM1
GeneLynx	PIM1

eGenome	PIM1
euGene	5292
	Genomic and cartography
GoldenPath	PIM1 - 6p21.2 chr6:37245964-37251180 + 6p21.2 (hg18-Mar_2006)
Ensembl	PIM1 - 6p21.2 [CytoView]
NCBI	Genes Cyto Gene Seq [Map View - NCBI]
OMIM	Disease map [OMIM]
HomoloGene	PIM1
	Gene and transcription
Genbank	BC020224 [ENTREZ]
Genbank	CR591847 [ENTREZ]
Genbank	DQ022562 [ENTREZ]
Genbank	M16750 [ENTREZ]
Genbank	M24779 [ENTREZ]
RefSeq	NM_002648 [SRS] NM_002648 [ENTREZ]
AceView	PIM1 AceView - NCBI
TRASER	PIM1 Traser - Stanford
Unigene	Hs.81170 [SRS] Hs.81170 [NCBI] HS81170 [spliceNest]
	Protein : pattern, domain, 3D structure
SwissProt	P11309 [SRS] P11309 [EXPASY] P11309 [INTERPRO]
Prosite	PS00107 PROTEIN_KINASE_ATP [SRS] PS00107 PROTEIN_KINASE_ATP [Expasy]
Prosite	PS50011 PROTEIN_KINASE_DOM [SRS] PS50011 PROTEIN_KINASE_DOM [Expasy]
Prosite	PS00108 PROTEIN_KINASE_ST [SRS] PS00108 PROTEIN_KINASE_ST [Expasy]
Interpro	IPR000719 Prot_kinase [SRS] IPR000719 Prot_kinase [EBI]
Interpro	IPR008271 Ser_thr_pkin_AS [SRS] IPR008271 Ser_thr_pkin_AS [EBI]
CluSTr	P11309
Pfam	PF00069 Pkinase [SRS] PF00069 Pkinase [Sanger] pfam00069 [NCBI-CDD]
Smart	SM00220 S_TKc [EMBL]
Prodom	PD000001 Prot_kinase[INRA-Toulouse]
Prodom	P11309 PIM1_HUMAN [Domain structure] P11309 PIM1_HUMAN [sequences sharing at least 1 domain]
Blocks	P11309
PDB	1XQZ [SRS] 1XQZ [PdbSum], 1XQZ [IMB]
PDB	1XR1 [SRS] 1XR1 [PdbSum], 1XR1 [IMB]

PDB	1XWS [SRS] 1XWS [PdbSum], 1XWS [IMB]
PDB	1YHS [SRS] 1YHS [PdbSum], 1YHS [IMB]
PDB	1YI3 [SRS] 1YI3 [PdbSum], 1YI3 [IMB]
PDB	1YI4 [SRS] 1YI4 [PdbSum], 1YI4 [IMB]
PDB	2BIK [SRS] 2BIK [PdbSum], 2BIK [IMB]
PDB	2BIL [SRS] 2BIL [PdbSum], 2BIL [IMB]
PDB	2BZH [SRS] 2BZH [PdbSum], 2BZH [IMB]
PDB	2BZI [SRS] 2BZI [PdbSum], 2BZI [IMB]
PDB	2BZJ [SRS] 2BZJ [PdbSum], 2BZJ [IMB]
PDB	2BZK [SRS] 2BZK [PdbSum], 2BZK [IMB]
PDB	2C3I [SRS] 2C3I [PdbSum], 2C3I [IMB]
	Protein Interaction databases
DIP	P11309
IntAct	P11309
	Polymorphism : SNP, mutations, diseases
OMIM	164960 [map]
GENECLINICS	164960
SNP	PIM1 [dbSNP-NCBI]
SNP	NM_002648 [SNP-NCI]
SNP	PIM1 [GeneSNPs - Utah] PIM1] [HGBASE - SRS] PIM1 [SNP - HAPMAP]
	General knowledge
Family Browser	PIM1 [UCSC Family Browser]
SOURCE	NM_002648
SMD	Hs.81170
SAGE	Hs.81170
Enzyme	2.7.1.37 [Enzyme-SRS] 2.7.1.37 [Brenda-SRS] 2.7.1.37 [KEGG] 2.7.1.37 [WIT]
Amigo	nucleotide binding
Amigo	protein serine/threonine kinase activity
Amigo	protein binding
Amigo	ATP binding
Amigo	nucleus
Amigo	cytoplasm
Amigo	protein amino acid phosphorylation
Amigo	development
Amigo	cell proliferation
Amigo	transferase activity
Amigo	manganese ion binding

Amigo	negative regulation of apoptosis
Amigo	metal ion binding
PubGene	PIM1
	Other databases
	Probes
Probe	PIM1 Related clones (RZPD - Berlin)
	PubMed
PubMed	**37 Pubmed reference(s) in LocusLink**

Bibliography

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Contributor(s)

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