MMP11 (matrix metalloproteinase 11 (stromelysin 3))

Identity

Other names	**ST3 (stromelysin-3)**
	MMP-11 (matrix metalloproteinase 11)
Hugo	**MMP11**
Location	22q11.2

DNA/RNA

Description	8 exons and 7 introns spanning 11.5 kb; cDNA: 2247 bp, coding sequence 1464 bp
Transcription	expression is induced by retinoic acid and TPA through a DR1-type responsive element and a C/EBP binding site, respectively, expression is induced by epithelial cells in a paracrin manner

Protein

Description	488 amino-acids; 51 kDa; functional domains: signal peptide, targeting the protein to the secretory pathway, prodomain containing a furin-type cleavage site responsible for the intracellular activation, catalytic domain containing a zinc binding site, hemopexin-like domain
Expression	cells of mesenchymal origin, notably fibroblastic cells, macrophages, osteoclasts
Function	extracellular zinc-dependent proteinase expressed during tissu remodelling processes (development, wound healing) and whose specific substrate is unknown
Homology	member of the matrix metalloproteinases (MMP) subfamily of matrixins

Implicated in

Entity	various cancer:
Disease	expression of ST3 in 80 to 100% invasive carcinomas of the breast, colon, head and neck, lung, ovary, pancreas, prostate, skin (basal cell carcinoma), uterus (cervix carcinoma and endometrial carcinoma) and in some non-invasive carcinomas that have a high risk of evolving towards invasion; also expression in: fibroblastic stromal cells in the close vicinity of cancerous epithelial cells
Prognosis	prognostic factor of invasion and aggressiveness of the tumors

External links

	Nomenclature
Hugo	MMP11
GDB	MMP11
Entrez_Gene	MMP11 4320 matrix metallopeptidase 11 (stromelysin 3)
	Cards
Atlas	**ST3ID200**
GeneCards	MMP11
Ensembl	MMP11
Genatlas	MMP11
GeneLynx	MMP11
eGenome	MMP11
euGene	4320
	Genomic and cartography
GoldenPath	MMP11 - 22q11.2 chr22:22445036-22456502 + 22q11.23 (hg18-Mar_2006)
Ensembl	MMP11 - 22q11.23 [CytoView]
NCBI	Genes Cyto Gene Seq [Map View - NCBI]
OMIM	Disease map [OMIM]
HomoloGene	MMP11
	Gene and transcription
Genbank	AK075448 [ENTREZ]
Genbank	AK125911 [ENTREZ]
Genbank	AK129792 [ENTREZ]
Genbank	BC057788 [ENTREZ]
Genbank	CR602252 [ENTREZ]
RefSeq	NM_005940 [SRS] NM_005940 [ENTREZ]
AceView	MMP11 AceView - NCBI
TRASER	MMP11 Traser - Stanford
Unigene	Hs.143751 [SRS] Hs.143751 [NCBI] HS143751 [spliceNest]
	Protein : pattern, domain, 3D structure
SwissProt	P24347 [SRS] P24347 [EXPASY] P24347 [INTERPRO]
Prosite	PS00546 CYSTEINE_SWITCH [SRS] PS00546 CYSTEINE_SWITCH [Expasy]
Prosite	PS00024 HEMOPEXIN [SRS] PS00024 HEMOPEXIN [Expasy]
Prosite	PS00142 ZINC_PROTEASE [SRS] PS00142 ZINC_PROTEASE [Expasy]
Interpro	IPR000585 Hemopexin [SRS] IPR000585 Hemopexin [EBI]
Interpro	IPR001818 Pept M10A M12B [SRS] IPR001818

	Pept_M10A_M12B [EBI]
Interpro	IPR006025 Pept_M_Zn_BS [SRS] IPR006025 Pept_M_Zn_BS [EBI]
Interpro	IPR006026 Peptidase_M [SRS] IPR006026 Peptidase_M [EBI]
CluSTr	P24347
Pfam	PF00045 Hemopexin [SRS] PF00045 Hemopexin [Sanger] pfam00045 [NCBI-CDD]
Pfam	PF00413 Peptidase_M10 [SRS] PF00413 Peptidase_M10 [Sanger] pfam00413 [NCBI-CDD]
Smart	SM00120 HX [EMBL]
Smart	SM00235 ZnMc [EMBL]
Blocks	P24347
	Protein Interaction databases
DIP	P24347
IntAct	P24347
	Polymorphism : SNP, mutations, diseases
OMIM	185261 [map]
GENECLINICS	185261
SNP	MMP11 [dbSNP-NCBI]
SNP	NM_005940 [SNP-NCI]
SNP	MMP11 [GeneSNPs - Utah] MMP11] [HGBASE - SRS] MMP11 [SNP - HAPMAP]
	General knowledge
Family Browser	MMP11 [UCSC Family Browser]
SOURCE	NM_005940
SMD	Hs.143751
SAGE	Hs.143751
Enzyme	3.4.24.- [Enzyme-SRS] 3.4.24.- [Brenda-SRS] 3.4.24.- [KEGG] 3.4.24.- [WIT]
Amigo	stromelysin 3 activity
Amigo	calcium ion binding
Amigo	extracellular matrix (sensu Metazoa)
Amigo	proteolysis
Amigo	zinc ion binding
Amigo	morphogenesis
Amigo	collagen catabolism
PubGene	MMP11
	Other databases
	Probes
Probe	MMP11 Related clones (RZPD - Berlin)
	PubMed

PubMed **19 Pubmed reference(s) in LocusLink**

Bibliography

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Medline 91080920

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Invasion Metastasis 1994, 14:269- 275.
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Structure and promoter characterization of the human stromelysin-3 gene.
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J. Biol. Chem. 1995, 270:20337-20344.
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J. Cell Sci. 1998, 140: 1535-1541.
Medline 98177179

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