

LDB1

Identity

Other names **CLIM2**
NLI

Hugo **[LDB1](#)**

Location 10q24

DNA/RNA

Description 7kb; 11exons

Transcription 2292 nucleotides mRNA

Protein

Description 375 amino acids; 42.8 kDa protein

Expression Widely expressed

Localisation Nuclear

Function LDB1 is a nuclear protein that contains an N-terminal dimerization domain and a C-terminal LIM interaction domain (LID). LDB1 binds to LIM-homeodomain (LIM-HD) and LIM-only (LMO) proteins. It acts as an adaptor protein that mediates interactions between different classes of transcription factors and their cofactors. LDB1 forms a complex with [LKB1](#), LMO4, and GATA-6. The tumor suppressor LKB1 is mutated in [Peutz-Jeghers syndrome](#) and various sporadic cancers. A complex containing LDB1, LKB1, LMO4, and GATA-6 induces cyclin-dependent kinase inhibitor [p21](#) expression. Targeted deletion of the Ldb1 gene in mice displays multiple developmental defects that reveal a requirement of Ldb1 gene during normal development.

Implicated in

Entity [Oral squamous cell carcinoma](#)

Oncogenesis LDB1 and are frequently detected in less-differentiated and metastasized squamous carcinoma, and overexpressed at the carcinoma invasive front.

External links

Nomenclature

[Hugo](#) [LDB1](#)

[GDB](#) [LDB1](#)

[Entrez_Gene](#) [LDB1_8861](#) LIM domain binding 1

Cards

[Atlas](#) [LDB1ID41135ch10q24](#)

[GeneCards](#) [LDB1](#)

[Ensembl](#) [LDB1](#)

[GenAtlas](#) [LDB1](#)

[GeneLynx](#) [LDB1](#)

[eGenome](#) [LDB1](#)

[euGene](#) [8861](#)

Genomic and cartography

[GoldenPath](#) [LDB1 - 10q24 chr10:103857317-103864692 - 10q24-q25](#) (hg18-Mar_2006)
[Ensembl](#) [LDB1 - 10q24-q25 \[CytoView\]](#)
[NCBI](#) [Mapview](#)
[OMIM](#) [Disease map \[OMIM\]](#)

[HomoloGene](#) [LDB1](#)

Gene and transcription

[Genbank](#) [AB016485](#) [ENTREZ]
[Genbank](#) [AB250384](#) [ENTREZ]
[Genbank](#) [AF064491](#) [ENTREZ]
[Genbank](#) [AF068652](#) [ENTREZ]
[Genbank](#) [BC000482](#) [ENTREZ]
[RefSeq](#) [NM_003893](#) [SRS] [NM_003893](#) [ENTREZ]
[RefSeq](#) [AC_000053](#) [SRS] [AC_000053](#) [ENTREZ]
[RefSeq](#) [NC_000010](#) [SRS] [NC_000010](#) [ENTREZ]
[RefSeq](#) [NT_030059](#) [SRS] [NT_030059](#) [ENTREZ]
[RefSeq](#) [NW_924884](#) [SRS] [NW_924884](#) [ENTREZ]

[AceView](#) [LDB1](#) AceView - NCBI

[Unigene](#) [Hs.454418](#) [SRS] [Hs.454418](#) [NCBI] [HS454418](#) [spliceNest]

Protein : pattern, domain, 3D structure

[SwissProt](#) [O75479](#) [SRS] [O75479](#) [EXPASY] [O75479](#) [INTERPRO]
[Interpro](#) [IPR002691 LIM_bd](#) [SRS] [IPR002691 LIM_bd](#) [EBI]
[CluSTr](#) [O75479](#)
[Pfam](#) [PF01803 LIM_bind](#) [SRS] [PF01803 LIM_bind](#) [Sanger] [pfam01803](#) [NCBI-CDD]
[Blocks](#) [O75479](#)
[HPRD](#) [O75479](#)

Protein Interaction databases

[DIP](#) [O75479](#)
[IntAct](#) [O75479](#)

Polymorphism : SNP, mutations, diseases

[OMIM](#) [603451](#) [[map](#)]
[GENECLINICS](#) [603451](#)
[SNP](#) [LDB1](#) [dbSNP-NCBI]
[SNP](#) [NM_003893](#) [SNP-NCI]
[SNP](#) [LDB1](#) [GeneSNPs - Utah] [LDB1](#) [HGBASE - SRS]
[HAPMAP](#) [LDB1](#) [HAPMAP]

General knowledge

[Family Browser](#) [LDB1](#) [UCSC Family Browser]
[SOURCE](#) [NM_003893](#)
[SMD](#) [Hs.454418](#)
[SAGE](#) [Hs.454418](#)
[GO](#) [transcription cofactor activity](#) [Amigo] [transcription cofactor activity](#)

[GO](#) [transcription corepressor activity](#) [Amigo] [transcription corepressor activity](#)
[GO](#) [nucleus](#) [Amigo] [nucleus](#)
[GO](#) [nucleus](#) [Amigo] [nucleus](#)
[GO](#) [multicellular organismal development](#) [Amigo] [multicellular organismal development](#)
[GO](#) [multicellular organismal development](#) [Amigo] [multicellular organismal development](#)
[GO](#) [anterior/posterior axis specification](#) [Amigo] [anterior/posterior axis specification](#)
[GO](#) [gastrulation \(sensu Mammalia\)](#) [Amigo] [gastrulation \(sensu Mammalia\)](#)
[GO](#) [Wnt receptor signaling pathway](#) [Amigo] [Wnt receptor signaling pathway](#)
[GO](#) [neuron differentiation](#) [Amigo] [neuron differentiation](#)
[GO](#) [LIM domain binding](#) [Amigo] [LIM domain binding](#)
[GO](#) [LIM domain binding](#) [Amigo] [LIM domain binding](#)
[GO](#) [protein homodimerization activity](#) [Amigo] [protein homodimerization activity](#)
[GO](#) [protein complex](#) [Amigo] [protein complex](#)
[GO](#) [negative regulation of erythrocyte differentiation](#) [Amigo] [negative regulation of erythrocyte differentiation](#)
[GO](#) [negative regulation of transcription, DNA-dependent](#) [Amigo] [negative regulation of transcription, DNA-dependent](#)
[BIOCARTA](#) [Multi-step Regulation of Transcription by Pitx2](#) [Genes]

[PubGene](#) [LDB1](#)

Other databases

Probes

[Probe](#) [LDB1 Related clones \(RZPD - Berlin\)](#)

PubMed

[PubMed](#) [27 Pubmed reference\(s\) in LocusLink](#)

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Medline [16580634](#)

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