

LTA (Lymphotoxin-A)

Identity

Other names	TNFb Tumor Necrosis Factor-b TNFSF1 TNF Superfamily member 1
Hugo	LTA
Location	6p21.3

DNA/RNA

Description The human TNFb gene is located next to HLA-C and HLA-B loci in chromosome 6 (6p21.3). The gene spans 2005bp with 4 exons, which transcribes a TNFb mRNA with size of 1386nt.

Protein



Description The human TNFb protein contains 205 amino acids. The soluble form of TNFb is usually a homotrimer with a relative molecular mass of 60 to 70 kDa, whereas the membrane form of TNFb is a heteromeric complex with lymphotoxin b (TNFc, LTb, TNFSF3). The human TNFb shares 35% identity and 50% homology in amino acid sequence with the human [TNFa](#). The biological function of TNFb is mediated largely by TNFa receptor 1 and TNFa receptor 2. Recent studies suggested that TNFb can also recognize LIGHT (TNFSF14) receptor.

Expression The main cellular source of TNFb is the activated lymphocytes in immune response.

Localisation Cell membrane, extracellular soluble form, blood stream, and biological fluids.

Function The human TNFb is an important cytokine involved in the development of secondary lymphoid organs and inflammatory responses.

Implicated in

Disease The polymorphism of TNFb gene in either the coding region or the promoter region has been associated with Crohn disease and myocardial infarction.

External links

Nomenclature

Hugo	LTA
GDB	LTA
Entrez_Gene	LTA_4049 lymphotoxin alpha (TNF superfamily, member 1)

Cards

Atlas	LTAID41209ch6p21
GeneCards	LTA
Ensembl	LTA
CancerGene	LT
GenAtlas	LTA
GeneLynx	LTA
eGenome	LTA
euGene	4049

Genomic and cartography

GoldenPath	LTA - 6p21.3 chr6:31648072-31650077 + 6p21.33 (hg17-May_2004)
Ensembl	LTA - 6p21.33 [CytoView]
NCBI	Genes Cyto Gene Seq [Map View - NCBI]
OMIM	Disease map [OMIM]
HomoloGene	LTA

Gene and transcription

Genbank	AB088112 [SRS] AB088112 [ENTREZ]
Genbank	AF129756 [SRS] AF129756 [ENTREZ]
Genbank	AL662801 [SRS] AL662801 [ENTREZ]
Genbank	AL929587 [SRS] AL929587 [ENTREZ]
Genbank	AY070490 [SRS] AY070490 [ENTREZ]
RefSeq	NM_000595 [SRS] NM_000595 [ENTREZ]
RefSeq	NT_086688 [SRS] NT_086688 [ENTREZ]
AceView	LTA AceView - NCBI
TRASER	LTA Traser - Stanford
Unigene	Hs.36 [SRS] Hs.36 [NCBI] HS36 [spliceNest]

Protein : pattern, domain, 3D structure

SwissProt	P01374 [SRS] P01374 [EXPASY] P01374 [INTERPRO]
Prosite	PS00251 TNF_1 [SRS] PS00251 TNF_1 [Expasy]
Prosite	PS50049 TNF_2 [SRS] PS50049 TNF_2 [Expasy]
Interpro	IPR006053 TNF_abc [SRS] IPR006053 TNF_abc [EBI]
Interpro	IPR006052 TNF_family [SRS] IPR006052 TNF_family [EBI]
Interpro	IPR008983 TNF_like [SRS] IPR008983 TNF_like [EBI]

[Interpro](#) [IPR003636 TNF_subf](#) [SRS] [IPR003636 TNF_subf](#) [EBI]
[CluSTr](#) [P01374](#)
[Pfam](#) [PF00229 TNF](#) [SRS] [PF00229 TNF](#) [Sanger] [pfam00229](#) [NCBI-CDD]
[Smart](#) [SM00207 TNF](#) [EMBL]
[Prodom](#) [PD002012 TNF_subf](#) [INRA-Toulouse]
[Prodom](#) [P01374 TNFB_HUMAN](#) [Domain structure] [P01374 TNFB_HUMAN](#) [sequences sharing at least 1 domain]
[Blocks](#) [P01374](#)
[PDB](#) [1TNR](#) [SRS] [1TNR](#) [PdbSum], [1TNR](#) [IMB]

Polymorphism : SNP, mutations, diseases

[OMIM](#) [153440](#) [map]
[GENECLINICS](#) [153440](#)
[SNP](#) [LTA](#) [dbSNP-NCBI]
[SNP](#) [NM_000595](#) [SNP-NCI]
[SNP](#) [LTA](#) [GeneSNPs - Utah] [LTA](#) [SNP - CSHL] [LTA](#) [HGBASE - SRS]

General knowledge

[Family Browser](#) [LTA](#) [UCSC Family Browser]
[SOURCE](#) [NM_000595](#)
[SMD](#) [Hs.36](#)
[SAGE](#) [Hs.36](#)
[Amigo](#) [process|cell-cell signaling](#)
[Amigo](#) [process|immune response](#)
[Amigo](#) [process|induction of apoptosis](#)
[Amigo](#) [component|membrane](#)
[Amigo](#) [process|signal transduction](#)
[Amigo](#) [function|tumor necrosis factor receptor binding](#)
[BIOCARTA](#) [Cytokine Network](#)
[BIOCARTA](#) [Cytokines and Inflammatory Response](#)
[BIOCARTA](#) [TNF/Stress Related Signaling](#)
[BIOCARTA](#) [TNFR2 Signaling Pathway](#)
[PubGene](#) [LTA](#)

Other databases

Probes

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

PubMed

[PubMed](#) [48 Pubmed reference\(s\) in LocusLink](#)

Bibliography

Signalling pathways of the TNF superfamily: a double-edged sword

Aggarwal BB

Nat Rev Immunol 2003; 3(9): 745-756.

Medline [12949498](#)

Lymphotoxin/LIGHT, lymphoid microenvironments and autoimmune disease.

Gommerman JL and Browning JL

Nat Rev Immunol 2003; 3(8): 642-655.

Medline [12974479](#)

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Contributor(s)

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URL :

<http://www.infobiogen.fr/services/chromcancer/Genes/LTAID41209ch6p21.html>

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