

ANLN (anillin, actin binding protein)

Identity

Other names	ANILLIN Scraps scra
HGNC (Hugo)	ANLN
Location	7p14.2
Location_base_pair	Starts at 36395957 and ends at 36459925 bp from pter (according to hg18-Mar_2006) [Mapping]
Local_order	The human ANLN gene maps on 7p15-p14 between the KIAA0895 and the ENSG00000210490 loci.

DNA/RNA

Description	The ANLN gene consists of 63,969 bases and at least 23 exons.
Transcription	The transcribed mRNA is 4,786 bp.

Protein

Description	The human ANLN cDNA encodes a protein (1124 amino acids; 124199 Da) that includes an actin-binding domain and a C-terminal domain with pleckstrin homology (PH). It also contains several consensus nuclear localization sequences (NLS) and one consensus SH3-binding motif.
Expression	ANLN is mainly expressed in adult placenta, testis, and spinal cord, and in fetal organs (brain, heart, kidney, liver, lung, skeletal muscle, spleen and thymus).
Localisation	ANLN is mainly found in nucleus, cytoplasm, cytoskeleton, cleavage furrow, and cell cortex.
Function	Anillin (ANLN) was initially characterized as a human homologue of anillin, a Drosophila actin-binding protein. ANLN localizes not only to the cytoplasm but also to nuclei in some proportion of cancer cells; it is likely to present at the cortex following breakdown of the nuclear envelope, and in the cleavage furrow during cytokinesis. ANLN plays an important role in cell-cycle progression. In late phases ANLN may assemble the actin and myosin contractile ring that separates daughter cells, through interaction with at least two other furrow proteins, actin and septins (SEPTs). ANLN is supposed to be a substrate of the anaphase-promoting complex/cyclosome (APC/C), a ubiquitin ligase that controls mitotic progression.

Implicated in

Entity	Lung cancer
Prognosis	Nuclear ANLN (n-ANLN) was indicated to be an independent prognostic factor for patients with non-small cell lung cancer .
Oncogenesis	ANLN interacts with and activates RHOA , and this complex is likely to be essential for the growth-promoting pathway and aggressive features of lung cancers as well as for cell division. Moreover n-ANLN whose nuclear localization and stability are regulated by PI3K/ AKT signaling, appears to regulate the malignant potential of cancer cells.
Entity	Prostate cancer
Note	Overexpression of ANLN was observed in hormone-refractory prostate cancers (HRPCs)
Entity	Head and neck squamous cell carcinoma
Note	Overexpression of ANLN was observed in head and neck squamous cell carcinomas (HNSCCs).

External links

	Nomenclature
HGNC (Hugo)	ANLN 14082
Entrez_Gene (NCBI)	ANLN 54443 "anillin, actin binding protein"
	Cards

Atlas	ANLNID44318ch7p14
GeneCards (Weizmann)	ANLN
Ensembl (Hinxton)	ENSG00000011426 [Gene_View] ANLN [Vega]
AceView (NCBI)	ANLN
Genatlas (Paris)	ANLN
euGene (Indiana)	54443
SOURCE (Stanford)	NM_018685
Gene Expression (Array Express)	ENSG00000011426
	Genomic and cartography
GoldenPath (UCSC)	ANLN - 7p14.2 chr7:36395957-36459925 + 7p15-p14 [Description] (hg18-Mar_2006)
Ensembl	ANLN - 7p15-p14 [CytoView]
Mapping of homologs : NCBI	ANLN [Mapview]
	Gene and transcription
Gene : Genbank (Entrez)	AF273437 AK001468 AK001472 AK023208 AK291254
Reference sequence (RefSeq transcript) : SRS	NM_018685
Reference transcript : Entrez	NM_018685
RefSeq genomic : SRS	AC_000050 AC_000068 AC_000139 NC_000007 NT_007819 NT_079592 NW_001839003 NW_923240
RefSeq genomic : Entrez	AC_000050 AC_000068 AC_000139 NC_000007 NT_007819 NT_079592 NW_001839003 NW_923240
Consensus coding sequences : CCDS NCBI	ANLN
Cluster EST : Unigene Hs.62180 [SRS] Hs.62180 [NCBI]	
Alternative Splicing : Fast-db (Paris)	3921
	Protein : pattern, domain, 3D structure
Protein : UniProt/SwissProt	Q9NQW6 (SRS) Q9NQW6 (Expasy) Q9NQW6 (Uniprot)
With graphics : InterPro	Q9NQW6
Splice isoforms : VarSplice FASTA	Q9NQW6 (VarSplice FASTA)
Domaine pattern : Prosites (SRS)	PH_DOMAIN (PS50003)
Domain pattern : Prosites (Expasy)	PH_DOMAIN (PS50003)
Domains : Interpro (SRS)	PH PH_type
Domains : Interpro (EBI)	PH PH_type
Related proteins : CluSTr	Q9NQW6
Domain families : Pfam SRS	PH (PF00169)
Domain families : Pfam Sanger	PH (PF00169)
Domain families :	pfam00169

[Pfam NCBI](#)

Domain families : [PH \(SM00233\)](#)
[Smart EMBL](#)

[Blocks \(Seattle\)](#) [Q9NQW6](#)

[HPRD](#) [09799](#)

Protein Interaction databases

[DIP \(DOE-UCLA\)](#) [Q9NQW6](#)

[IntAct \(EBI\)](#) [Q9NQW6](#)

Polymorphism : SNP, mutations, diseases

Single Nucleotide

Polymorphism (SNP) : [ANLN](#)

[dbSNP NCBI](#)

SNP : [GeneSNP Utah](#) [ANLN](#)

SNP : [HGBase](#) [ANLN](#)

Genetic variants :

[HAPMAP](#) [ANLN](#)

Mutations and

Diseases : [HGMD](#) [ANLN](#)

Diseases : [Genetic](#)

[Association](#) [ANLN](#)

General knowledge

Homologs :

[HomoloGene](#) [ANLN](#)

Homology/Alignments

: [Family Browser](#) [ANLN](#)

[UCSC](#)

Phylogenetic

Trees/Animal Genes : [ANLN](#)

[TreeFam](#)

Chemical/Protein

Interactions : [CTD](#) [54443](#)

Keywords Ontology : [cytokinesis](#) [septin ring assembly](#) [actin binding](#) [nucleus](#) [cytoplasm](#) [contractile ring](#) [cell cycle](#) [mitosis](#) [regulation of exit from mitosis](#)

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[EGO-EBI](#)

Other databases

Probes

Probes : [Imagenes](#) [ANLN Related clones \(RZPD - Berlin\)](#)

Literature

[PubMed](#) [18 Pubmed reference\(s\) in Entrez](#)

[PubGene](#) [ANLN](#)

Bibliography

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