

CASC5 (Cancer Sensitivity Candidate 5)

Identity

Other names **AF15q14 (ALL1 fused gene from 15q14)**
KIAA1570
D40

Hugo **CASC5**

Location 15q14

DNA/RNA

Note Whole genomic size is not determined, but consists of at least 10 Exons.

Transcription D40/CASC5 mRNA expression is dominant in normal human testis and slight expression are observed in other organs, such as placenta. At least two alternative isoforms of cDNA were identified.
Northern blotting analysis on testis shows two bands with size of approximately 6 and 8.5 kb which are probably derived from the two isoforms. Analysis on cancer cell lines, such as HeLa, gave single band with 8.5 kb. There is another alternative splicing site at the 5' side of this gene that generates a short exon with 78 bp in cDNA.
There are potential other alternative splicing at cancer cell lines.

Protein

Description Encodes 1833 amino acids and 2342 amino acids.

Expression In human testis D40/CASC5 protein expression with molecular weight of approximately 300 kDa and 250 kDa are observed in germ cell. The significant high expressions are observed in nucleus of spermatocytes and Pre-acrosome of spermatids. As D40/CASC5 protein has no hydrophobic signal peptide in its amino terminal.

Localisation It localizes outer surface of Pre-acrosome membrane.
Kinetochore proteins in *C. elegans* and yeast have sequence homology to D40 and it was shown that D40 is localized in kinetochore in a human cancer cell line.

Implicated in

Entity **t(11;15)(q23;q14) < ID: 1199 >/acute non lymphocytic leukemia (ANLL) -->MLL-CASC5**

Note It is reported that [MLL](#) gene and D40 (AF15q14) gene are translocated each other in three cases of leukemias.

Entity [lung cancer](#)

Note In primary lung cancer, clinicopathological findings correlates with D40 expression. D40 mRNA expression is more frequent in the tumors with low differentiation than the ones with moderate and high differentiation.
Further, the tumors derived from smoker express higher incidence of D40 mRNA than the ones from non-smoker.
D40 is a member of cancer/testis gene family.

External links

	Nomenclature
Hugo	CASC5
GDB	CASC5
Entrez_Gene	CASC5_57082 cancer susceptibility candidate 5
	Cards
Atlas	AF15q14ID318
GeneCards	CASC5
Ensembl	CASC5
GenAtlas	CASC5
GeneLynx	CASC5
eGenome	CASC5
euGene	57082
	Genomic and cartography
GoldenPath	CASC5 - 15q14 chr15:38673739-38743829 + 15q15.1 (hg18-Mar_2006)
Ensembl	CASC5 - 15q15.1 [CytoView]
NCBI	Genes Cyto Gene Seq [Map View - NCBI]
OMIM	Disease map [OMIM]
HomoloGene	CASC5
	Gene and transcription
Genbank	AB022190 [ENTREZ]
Genbank	AB046790 [ENTREZ]
Genbank	AF173994 [ENTREZ]
Genbank	AF248041 [ENTREZ]
Genbank	AF461041 [ENTREZ]
RefSeq	NM_144508 [SRS] NM_144508 [ENTREZ]
RefSeq	NM_170589 [SRS] NM_170589 [ENTREZ]
RefSeq	AC_000058 [SRS] AC_000058 [ENTREZ]
RefSeq	NC_000015 [SRS] NC_000015 [ENTREZ]
RefSeq	NT_010194 [SRS] NT_010194 [ENTREZ]
RefSeq	NW_925840 [SRS] NW_925840 [ENTREZ]
AceView	CASC5 AceView - NCBI
TRASER	CASC5 Traser - Stanford
Unigene	Hs.181855 [SRS] Hs.181855 [NCBI] HS181855 [spliceNest]
	Protein : pattern, domain, 3D structure
SwissProt	Q8NG31 [SRS] Q8NG31 [EXPASY] Q8NG31 [INTERPRO]
CluSTr	Q8NG31
Blocks	Q8NG31
HPRD	Q8NG31
	Protein Interaction databases
DIP	Q8NG31
IntAct	Q8NG31
	Polymorphism : SNP, mutations, diseases

[OMIM](#) [609173](#) [[map](#)]
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[SNP](#) [CASC5](#) [dbSNP-NCBI]
[SNP](#) [NM_144508](#) [SNP-NCI]
[SNP](#) [NM_170589](#) [SNP-NCI]
[SNP](#) [CASC5](#) [GeneSNPs - Utah] [CASC5](#) [HGBASE - SRS]
[HAPMAP](#) [CASC5](#) [HAPMAP]

General knowledge

[Family Browser](#) [CASC5](#) [UCSC Family Browser]
[SOURCE](#) [NM_144508](#)
[SOURCE](#) [NM_170589](#)
[SMD](#) [Hs.181855](#)
[SAGE](#) [Hs.181855](#)
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[PubGene](#) [CASC5](#)

Other databases

Probes

[Probe](#) [CASC5 Related clones \(RZPD - Berlin\)](#)

PubMed

[PubMed](#) [9 Pubmed reference\(s\) in LocusLink](#)

Bibliography

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Medline [15371340](#)

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Medline [15579588](#)

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Nat Rev Cancer 2005; 5(8): 615-625.

Medline [16034368](#)

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Takimoto M . CASC5 (Cancer Sensitivity Candidate 5). Atlas Genet Cytogenet Oncol Haematol. September 2006 .

URL : <http://AtlasGeneticsOncology.org/Genes/AF15q14ID318.html>

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