

## t(5;14)(q35;q32)

### Clinics and Pathology

<b>Disease</b>	T cell acute lymphoblastic leukemia (ALL)
Phenotype / cell stem origin	cortical T cell leukemia (CD1a+,CD10+)
Epidemiology	frequent in T-cell ALL in children (in about 20% of childhood T-cell ALLs); less frequent in adult T-ALL. Not seen in B-cell ALL
Cytology	FAB nomenclature: L1 or L2 ALL
Prognosis	present data suggest that t(5;14)(q35;q32) is associated with poor outcome, but confirmatory data is necessary prior to conclude

### Cytogenetics

**Cytogenetics** Cryptic translocation (banded karyotype). Often apparently normal Morphological karyotype with banding techniques.

**Cytogenetics** t(5;14)(q35;q32) can be detected with FISH techniques. Several Molecular probes may be used: chromosome painting, combination of painting probes and YAC, multicolor-FISH with adequate probes. The localization of the chromosomal breakpoint with BACs/PACs will be performed in a second step.

**Additional anomalies** variable

### Genes involved and Proteins

**Note** The consequence of the translocation is the ectopic expression of the HOX11L2, gene normally located to 5q35, and normally not expressed in ALL without 5q rearrangement. The "deregulation" of HOX11L2 expression is thought to result from abnormal control of the gene by [CTPI2](#), located to 14q32, as a consequence of the chromosomal rearrangement. The chromosome 5 breakpoint is usually located within the locus of another gene, RanBP17, often disrupted by the chromosomal rearrangement. The breakpoint on chromosome 5 is consequently distant from the gene abnormally expressed (HOX11L2).

**Gene Name** [HOX11L2](#)  
**Location** 5q35  
**Protein** homeobox domain; belongs to HOX 11 family

## Result of the chromosomal anomaly

### Fusion

**Protein** no fusion protein, but abnormal expression of HOX11L2

Description

Oncogenesis HOX11L2 is transcriptionally activated, due to control by CITP2 regulatory sequences.

## External links

Other database [t\(5;14\)\(q35;q32\)](#) [Mitelman database \(CGAP - NCBI\)](#)

Other database [t\(5;14\)\(q35;q32\)](#) [CancerChromosomes \(NCBI\)](#)

## Bibliography

**A new recurrent and specific translocation, t(5;14)(q35,q32) is associated with expression of the HOX11L2 gene in T-acute lymphoblastic leukemia.**

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<http://www.infobiogen.fr/services/chromcancer/Anomalies/t0514q35q32ID1227.html>

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