Leukaemia Section
Short Communication

**t(10;14)(q24;q11), t(7;10)(q34;q24)**

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### Identity

**t(10;14)(q24;q11) R-banding -Courtesy Pascale Cornillet-Lefebvre and Stéphanie Struski.**

### Clinics and pathology

#### Disease
Acute lymphoblastic leukemia (ALL) and non-Hodgkin lymphoma (NHL) with medullary involvement.

#### PhenoType/cell stem origin
T lineage; occurs at early stage of T cell development.

#### Epidemiology
5 to 10% of T cell ALL.

#### Clinics
Organomegaly with marked hepatosplenomegaly, lymphadenopathy, mediastinal mass, high WBC count (100 to 200 X 10^9/l) sometimes with anemia.

#### Cytology
High blast count in bone marrow.

#### Prognosis
Not unfavourable.

### Cytogenetics

#### Cytogenetics morphological

t(10;14)(q24;q11) is the sole anomaly in half cases; t(7;10)(q34;q24) is a rare variant translocation.

#### Additional anomalies
Number or structural changes involving various chromosomes, sometimes complex.

### Genes involved and proteins

**HOX 11 (previously called TCL3)**

#### Location
10q24

#### DNA/RNA
Spans over 7 kb, 3 exons, mRNA 7 kb.

#### Protein
HOX 11 homeoprotein, 61 amino acids, nuclear localisation, binds DNA to transactivate transcription, not normally expressed in adult tissues at levels detectable by routine Northern analysis.

**TRD**

#### Location
14q11

#### Note
Or TRB in the case of a 7q34-36 involvement.

#### Protein
T-cell receptor.

### Result of the chromosomal anomaly

**Fusion protein**

Description
No fusion protein, but promoter exchange; through aberrant physiological recombination, HOX 11 is placed under the control of regulatory domains of the TCTD gene and deregulated.

**Oncogenesis**

Inappropriate and abundant expression of HOX 11 in T-lineage cells bearing the translocation.

**References**


This article should be referenced as such: