t(8;13)(p12;q12)

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Published in Atlas Database: March 1998

Online updated version: http://AtlasGeneticsOncology.org/Anomalies/t813ID1094.html

DOI: 10.4267/2042/37440

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Identity

![Diagram of chromosome bands](http://AtlasGeneticsOncology.org/Anomalies/t813ID1094.html)

t(8;13)(p12;q12) G-bandng - Top: Courtesy Melanie Zenger and Claudia Haferlach; Middle and bottom: Courtesy Charles Bangs and Patty Jones.

Atlas Genet Cytogenet Oncol Haematol. 1998;2(3) 95
**Clinics and pathology**

**Disease**
Multilineage disorder with combined occurrence of myeloid malignancy and T-cell NHL.

**Phenotype / cell stem origin**
May involve a stem cell involving both myeloid, T lineage, and, possibly B-cell lineage.

**Epidemiology**
11 cases are described; median age 43 yrs (range 18-68); sex ratio: 4M/7F.

**Clinics**
Aggressive disease; complex picture of myeloid hyperplasia progressing to myelodysplasia and T-cell lymphoma; enlarged lymph node; blood data: high WBC (median 40 \( \times 10^9 \)l); myelemia; monocytosis and eosinophilia.

**Evolution**
CR is obtained, but is promptly followed by relapse progressing rapidly to ANLL.

**Prognosis**
Median survival: 12 mths.

**Cytogenetics**

**Cytogenetics, morphological**
The same t(8;13) is found both in the bone marrow and in the lymph node, ruling out the hypothesis of a leukemoid reaction caused by a lymphoma.

**Probes**
Megac Yacs 770-c-2 (1390 kb) and 959-a-4 (1260 kb), 856-b-6, 967-(CEPH); BAC 7M15.

**Additional anomalies**
Usually occurs as a single anomaly; duplication of the der(13) was found during disease progression, suggesting that the crucial event might lie on this derivative chromosome; +8, +21 are also recurrently found.

**Genes involved and Proteins**

**FGFR1**
Location: 8p12

**ZNF198**

**Location:** 13q12

**Protein**
Zinc finger protein with a hydrophobic repeat, and a potentially nuclear localisation signal.

**Results of the chromosomal anomaly**

**Hybrid gene**

**Description**
Breakpoint in FGFR1 intron 8.

**Fusion protein**

**ZNF198/FGFR1**

**Location:** 8p12

**Description**
N-term zinc fingers from ZNF198 fused to the C-term Tyrosine kinase domain from FGFR1 (and deleting the N-term immunoglobulin-like and central transmembrane domains of FGFR1).

**Expression localisation**
Cytoplasmic.

**Oncogenesis**
Through constitutive activation of FGFR1 signal transduction pathways, possibly via dimerization of the chimeric protein.

**References**


Leroux D. Unpublished observation.

This article should be referenced as such: