

# Leukaemia Section

## Short Communication

### t(8;19)(p11;q13)

Jacques Boyer

Laboratoire d'Hématologie, CH du MANS, France (JB)

Published in Atlas Database: December 2003

Online updated version : <http://AtlasGeneticsOncology.org/Anomalies/t0819p11q13ID1315.html>

DOI: 10.4267/2042/38074

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 2.0 France Licence.  
© 2004 Atlas of Genetics and Cytogenetics in Oncology and Haematology

## Identity

### Note

Two distinct clinical syndromes have been associated with the 8p11-p12 region:

Stem-cell myeloproliferative disorder with FGFR1 rearrangement

AML M4 or M5 erythrophagocytosis-associated with MOZ rearrangement.

This t(8;19)(p11;q13) with MOZ involvement should not be confused with the t(8;19)(p11;q13) with FGFR1 involvement found in the stem-cell myeloproliferative disorder.

The partners of 8p11 are 8q13, 14q11, 16p13, 19q13, 22q13 and 3q27, 17q12 in a complexe translocation t(3;8;17)(q27;p11;q12).

## Clinics and pathology

### Disease

Acute myelomonocytic or monocytic leukaemia (M4, M5a, and M5b) associated with erythro-phagocytosis by blasts noted to various degrees.

### Epidemiology

Rare.

### Cytology

Morphology feature observed in AML with t(8;16).

### Prognosis

Probably poor.

## Cytogenetics

### Cytogenetics morphological

t(8;19) (p11;q13) is a variant of t(8;16) (p11;p13).

## Additional anomalies

Two cases:

46,XX,t(8;19)(p11;q13.2)/idem,-16,-16q+

46,XX, t(8;19)(p11;q13) sole anomaly

## Genes involved and proteins

### MOZ

#### Location

8p11

#### Note

MOZ contains a LAP (Leukemia associated protein) zinc finger domain, a HAT domain (Histone acetyltransferase) and a acidic domain. Detection by FISH: YAC 176C9.

#### Protein

ZNF220

Monocytic leukemia zinc finger protein 2004 amino acids and 225 kDa nuclear protein, with 2 LAP/ PHD-type zinc fingers. MOZ is a histone acetyltransferase (HAT) and the founding member of the MYST family of HATs, a family that include proteins involved in cell cycle regulation, chromatin remodeling and dosage compensation. MOZ plays an important role during hematopoiesis with his transcriptional coregulator activity.

**The partner of MOZ is unknown in this translocation.**

#### Location

19q13

## Result of the chromosomal anomaly

### *Fusion protein*

#### Note

In the t(8 ;19) the fusion protein is unknown.

## References

Heim S, Avanzi GC, Billström R, Kristoffersson U, Mandahl N, Bekassy AN, Garwicz S, Wiebe T, Pegoraro L, Falda M. A new specific chromosomal rearrangement, t(8;16) (p11;p13), in acute monocytic leukaemia. *Br J Haematol.* 1987 Jul;66(3):323-6

Lai JL, Zandecki M, Jouet JP, Savary JB, Lambilliotte A, Bauters F, Cosson A, Deminatti M. Three cases of translocation (8;16)(p11;p13) observed in acute myelomonocytic leukemia: a new specific subgroup? *Cancer Genet Cytogenet.* 1987 Jul;27(1):101-9

Bertheas MF, Jaubert J, Vasselon C, Reynaud J, Pomier G, Le Petit JC, Hagemeijer A, Brizard CP. A complex t(3;8;17) involving breakpoint 8p11 in a case of M5 acute

nonlymphocytic leukemia with erythrophagocytosis. *Cancer Genet Cytogenet.* 1989 Oct 1;42(1):67-73

Stark B, Resnitzky P, Jeison M, Luria D, Blau O, Avigad S, Shaft D, Kodman Y, Gobuzov R, Ash S. A distinct subtype of M4/M5 acute myeloblastic leukemia (AML) associated with t(8:16)(p11:p13), in a patient with the variant t(8:19)(p11:q13)--case report and review of the literature. *Leuk Res.* 1995 Jun;19(6):367-79

Aguiar RC, Chase A, Coulthard S, Macdonald DH, Carapeti M, Reiter A, Sohal J, Lennard A, Goldman JM, Cross NC. Abnormalities of chromosome band 8p11 in leukemia: two clinical syndromes can be distinguished on the basis of MOZ involvement. *Blood.* 1997 Oct 15;90(8):3130-5

Pébusque MJ, Chaffanet M, Popovici C, Birnbaum D. [FGFR1 and MOZ, two key genes involved in malignant hemopathies linked to rearrangements within the chromosomal region 8p11-12]. *Bull Cancer.* 2000 Dec;87(12):887-94

---

*This article should be referenced as such:*

Boyer J. t(8;19)(p11;q13). *Atlas Genet Cytogenet Oncol Haematol.* 2004; 8(2):91-92.

---