Leukaemia Section
Short Communication

**t(7;17)(p15;q23)**

Jean-Loup Huret

Genetics, Dept Medical Information, UMR 8125 CNRS, University of Poitiers, CHU Poitiers Hospital, F-86021 Poitiers, France

Published in Atlas Database: August 2005

Online updated version: http://AtlasGeneticsOncology.org/Anomalies/t0717p15q23ID1362.html

DOI: 10.4267/2042/38269

This work is licensed under a Creative Commons Attribution-Non-commercial-No Derivative Works 2.0 France Licence.

© 2006 Atlas of Genetics and Cytogenetics in Oncology and Haematology

**Clinics and pathology**

**Disease**
Chronic myelogenous leukemia (CML) in accelerated phase (AP-CML).

**Epidemiology**
Only one case to date, a female patient, aged 50 at the time of the AP-CML.

**Prognosis**
Chronic phase of CML lasted 2 years before progression into an accelerated phase accompanied with the appearance of the t(7;17); the patient died in blast crisis of the CML 13 months after the AP-CML, 3 years after initial diagnosis of CML.

**Cytogenetics**

**Cytogenetics morphological**
A t(9;22)(q34;q11) was, indeed, present.

**Cytogenetics molecular**
Cryptic translocation; recognized by multicolor FISH plus locus-specific FISH.

**Genes involved and Proteins**

**HOXA9**
- **Location:** 7p15
- **Protein**
DNA binding domain (homeobox) in C-term (amino acids 206 to 265); sequence specific transcription factor; Hox proteins are in linear arrangement correlated with the genes expression during embryogenesis; regulate cell proliferation, cell migration, and segmental embryonic patterning.

**MSI2**
- **Location:** 17q23.2
- **DNA / RNA**
At least 15 exons; various splicing.
- **Protein**
Possesses 2 RNA recognition motifs; likely to be a RNA binding protein; may play a role in RNA metabolism in the cytoplasm; the mouse homolog is ubiquitous, and particularly active in the brain development.

**Results of the chromosomal anomaly**

**Hybrid gene**
- **Description**
5’ MSI2 - 3’ HOXA9; in frame fusion of MSI2 exon 9 to the intermediate alternatively spliced exon 1b (IME) of HOXA9.

**Fusion protein**
- **Description**
Contains, from N-term to C-term, the 2 RNA recognition motifs of MSI2 and the the IME and the homeobox domain of HOXA9.

**References**


This article should be referenced as such: Huret JL. t(7;17)(p15;q23). Atlas Genet Cytogenet Oncol Haematol. 2006;10(1):17-18.