

Leukaemia Section

Mini Review

t(7;11)(p15;p15)

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Published in Atlas Database: January 1999

Online updated version : <http://AtlasGeneticsOncology.org/Anomalies/t0711p15.html>
DOI: 10.4267/2042/37510

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Identity



t(7;11)(p15;p15) G-banding - Courtesy Diane H. Norback, Eric B. Johnson, and Sara Morrison-Delap, UW Cytogenetic Services.

Clinics and pathology

Disease

ANLL mostly; occasionally: CML-like cases without t(9;22), or CML in blast crisis (with t(9;22)).

Phenotype/cell stem origin

M2 or M4 ANLL mainly; involving maturing leukemic cells in ANLL cases, might affect trilineage progenitors in CML-like cases.

Epidemiology

Most cases have been found in Japan; balanced sex ratio.

Cytology

Auer rods; low alkaline phosphatase scores; CML like blood features.

Prognosis

CR in most cases; but patients tend to relapse; mean survival: 15 months.

Cytogenetics

Additional anomalies

Most often (90%) none.

Genes involved and proteins

HOXA9

Location

7p15

Protein

Encodes a class I homeodomain protein potentially involved in myeloid differentiation.

NUP98

Location

11p15

DNA/RNA

Alternate splicing.

Protein

Contains repeated motifs and a RNA binding motif; nucleoporin: role in nucleo-cytoplasmic transport.

Result of the chromosomal anomaly

Hybrid gene

Description

5' NUP98 - 3' HOXA9

Fusion protein

Description

Fuses the N-term GLFG repeat domains of NUP98 to the HOXA9 3' homeobox.

Oncogenesis

May promote leukaemogenesis through inhibition of HOXA9-mediated terminal differentiation and/or aberrant nucleocytoplasmic transport.

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This article should be referenced as such:

Huret JL. t(7;11)(p15;p15). *Atlas Genet Cytogenet Oncol Haematol*. 1999; 3(2):78-79.
