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


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.

References

This article should be referenced as such: