

t(3;11)(q25;q23)

Clinics and Pathology

Disease	treatment related acute non lymphoblastic leukemia
Phenotype / cell stem origin	M4 ANLL
Etiology	one case, a 13yr old boy; occurred 9 yrs after treatment for neuroblastoma with antitopoisomerase II

Genes involved and Proteins

Gene Name	GMPS
Location	3q24
Dna / Rna	2.2 kb mRNA
Protein	76 kDa; enzyme of the de novo synthesis of guanine nucleotides: amidotransferase that catalyzes the amination of xanthosine 5 prime monophosphate to form GMP

Gene Name	MLL
Location	in 11q23
Dna / Rna	13-15 kb mRNA
Protein	431 kDa; contains two DNA binding motifs (a AT hook, and Zinc fingers), a DNA methyl transferase motif, a bromodomain; transcriptional regulatory factor; nuclear localisation

Result of the chromosomal anomaly

Hybrid gene	fusion of MLL exon 7 to GMPS
Description	

External links

Other database [t\(3;11\)\(q25;q23\)](#) [Mitelman database \(CGAP - NCBI\)](#)

Other database [t\(3;11\)\(q25;q23\)](#) [CancerChromosomes \(NCBI\)](#)

To be noted

Additional cases are needed to delineate the epidemiology of this rare entity:

you are welcome to submit a paper to our new [Case Report section](#).

Bibliography

Human GMP synthetase. Protein purification, cloning, and functional expression of cDNA.

Hirst M, Haliday E, Nakamura J, Lou L.
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Medline [94375496](#)

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J Biol Chem 1995; 270: 23450-2345.
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t(3;11)(q25;q23) fuses MLL with the GMPS (guanosine 5'-monophosphate synthetase) gene in treatment-related acute myeloid leukemia (AML).

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Contributor(s)

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