t(5;14)(q31;q32)  
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Identity  

Clinics and pathology  

Disease  
B-cell acute lymphoblastic leukemia (ALL) with hypereosinophilia.  

Phenotype/cell stem origin  
CD19+, CD10+ ALL; eosinophils are not part of the leukemic cells and do not carry the t(5;14); they represent a reactive population (eosinophilia in association with ALL is usually reactive).  

Epidemiology  
Rarely described; 6M/1F; affects both children and adults, general features of ALL with hypereosinophilia are rarity, male predominance; and young age.  

Cytology  
Marked eosinophilia; basophilia; IL3 is over-expressed.  

Prognosis  
Prognosis appears to be poor, a feature of ALLs with hypereosinophilia.  

Cytogenetics  

Additional anomalies  
Sole anomaly or accompanied with various secondary anomalies: +X, (i(7q), del(12p), +19.  

Genes involved and proteins  

IL3  
Location  
5q31  
Protein  
152 amino acids; growth factor; colony stimulating factor involved in the survival, proliferation and differentiation of multipotent hematopoietic cells.  

IgH  
Location  
14q32  

Result of the chromosomal anomaly  

Hybrid gene  
Description  
Break in the promoter region of IL3 and in the Jh region of IgH.  

Fusion protein  
Expression / Localisation  
The immunoglobulin gene promoter controls the expression of IL3.  

Oncogenesis  
Over-expression of IL3.
References


This article should be referenced as such: