

t(1;2)(q25;p23)

Clinics and Pathology

Disease	Anaplastic large cell lymphoma: translocations involving 2p23 are found in more than half cases of anaplastic large cell lymphoma (ALCL), a high grade non Hodgkin lymphoma (NHL). They involve ALK, and are therefore called ALK+ ALCL. The most frequent ALK+ ALCL being the the t(2;5)(p23;q35) with NPM1 -ALK fusion protein, which localises both in the cytoplasm and in the nucleus. The t(1;2)(q25;p23) is very rare., and, like other t(2;Var) involving various partners and ALK, the fusion protein has a cytoplasmic localization; they are therefore called "cytoplasm only" ALK+ ALCL.
Epidemiology	a very few (four) cases known so far
Clinics	ALK+ ALCL without the t(2;5) (so called cytoplasmic only ALK cases) show clinical features similar to those of classical ALK+ ALCL: young age, male predominance, presentation with advanced disease, systemic symptoms, frequent involvement of extranodal sites, and a good prognosis. Nothing in particular is known concerning t(1;2) cases, as cases are not documented.
Cytogenetics	complex karyotypes and/or hidden translocation in the 2 cases with cytogenetic data; FISH analyses are essential

Disease	Inflammatory myofibroblastic tumors
Clinics	rare soft tissue tumour found in children and young adults
Pathology	spindle cell proliferation with myofibroblastic differentiation and an inflammatory infiltrate
Prognosis	low malignant potential and good prognosis

Genes involved and Proteins

Gene Name	TPM3 (tropomyosin alpha chain)
Location	1q25
Protein	284 amino acids, 33 kDa; coiled coil structure; role in Calcium dependant actin-myosin interaction
Gene Name	ALK
Location	2p23
Protein	1620 amino acids; 177 kDa; glycoprotein (200 kDa mature protein) ; membrane associated tyrosine kinase receptor

Result of the chromosomal anomaly

Hybrid gene	5' TPM3 - 3' ALK
Description	

Fusion Protein 104 kDa ; 221 (?) N-term amino acids from TPM3 fused to the 562 C-term amino acids from ALK (i.e. the entire cytoplasmic portion of ALK with the tyrosine kinase domain); homodimerization of the fusion protein.
Description
Oncogenesis TPM3-ALK is contitively activated

External links

Other database [t\(1;2\)\(q25;p23\)](#) [Mitelman database \(CGAP - NCBI\)](#)
Other database [t\(1;2\)\(q25;p23\)](#) [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.

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