

t(2;3)(p23;q21)

Clinics and Pathology

Disease	<p>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.</p> <p>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.</p> <p>The t(2;3)(p23;q21) 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.</p>
Epidemiology	only 2 cases to date: a 10 yr old girl and a 19 yr old man.
Clinics	<p>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(2;3) cases.</p>

Genes involved and Proteins

Gene Name	ALK
Location	2p23
Protein	1620 amino acids; 177 kDa; glycoprotein (200 kDa mature protein) ; membrane associated tyrosine kinase receptor
Gene Name	TFG (tropomyosin receptor kinase-fused gene)
Location	3q21
Protein	406 amino acids, 44 kDa; widely expressed
Somatic mutations	apart from the TFG-ALK herein described (see below), TFG is also known to de fused to NTRK1ID: 216> in a subset of END GENE SHORT

Result of the chromosomal anomaly

Hybrid gene	5' TFG - 3' ALK
Description	
Fusion Protein	83 kDa and 96-97 kDa; as the breakpoint in TPM3 was variable , 701 amino acids in the sort er fusion protein, composed of 138 N-term amino acids from TFG, including the cioled-coil oligomerization domain 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	

External links

Other database [t\(2;3\)\(p23;q21\)](#) [Mitelman database \(CGAP - NCBI\)](#)
Other database [t\(2;3\)\(p23;q21\)](#) [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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