

Gene Section

Short Communication

ALK (anaplastic lymphoma kinase)

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Identity

Location: 2p23

DNA/RNA

Transcription

6.2 kb m RNA; coding sequence: 4.9 kb.

Protein

Description

1620 amino acids; 177 kDa; after glycosylation, produces a 200 kDa mature glycoprotein.

Expression

Tissue specific; mainly in: brain, gut and testis; not in the lymphocytes.

Localisation

Cell membrane.

Function

Membrane associated tyrosine kinase receptor; probable role in nervous system development and maintenance.

Homology

Homologies with the insulin receptor super family: LTK (leucocyte tyrosine kinase), TRKA, ROS (homolog of the drosophila Sevenless), IGF1-R and IRbeta.

Implicated in

**t(2;5)(p23;q35)/CD30+ NHL →
NPM1/ALK**

Disease

High grade NHL; most often: CD30+ anaplastic large cell type.

Prognosis

Nonetheless, a 80% five yr survival may be associated with this anomaly.

Cytogenetics

Additional anomalies are most often found.

Hybrid/Mutated Gene

5' NPM1-3' ALK on der(5).

Abnormal Protein

680 amino acids; N-term NPM1 is fused to the 563 C-term aminoacids of ALK (i.e. the entire cytoplasmic portion of ALK); no apparent expression of the ALK/NPM1 counterpart; localisation: both in the cytoplasm and in the nucleus.

Oncogenesis

Via the kinase function activated by oligomerization of NPM1-ALK mediated by the NPM1 part.

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