

Gene Section

Short Communication

TCL1B (T-cell leukemia/lymphoma 1B)

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Identity

Hugo: TCL1B

Other names: TML1

Location: 14q32.13

Local order: centromere - TCL6 (TNG1 and TNG2) - TCL1B - TCL1A - telomere

DNA/RNA

Description

6.5 kb TCL1B cDNA. 4 exons (181, 171, 69, 697 bp); centromere - exons 1 to 4 - telomere orientation; only the first three exons are coding. Located 15-16 kb centromeric of TCL1A.

Transcription

TCL1B transcripts detected by RT-PCR or Northern blot in fetal tissues (liver, thymus, spleen, and kidney) and in testis, placenta, peripheral blood lymphocytes, kidney, tonsil, spleen, and bone marrow.

Pseudogene

Localized to 5q12-5q13, lacks an initiating ATG and introns and has a stop codon in the middle of the ORF.

Protein

Description

15 kDa, 128 amino acid protein; one domain with a beta-barrel topology.

Expression

Undefined.

Localisation

Undefined.

Function

Undefined in vivo but binds and coactivates AKT (protein kinase B) in vitro and in transfected cell lines.

Homology

30% identical to TCL1A, 60% similar to TCL1A.
36% identical to MTCP1, 63% similar to MTCP1.

Implicated in

Expression in rare mature T cell leukemias carrying t(14;14)(q11;q32.1) causing a TCRalpha/delta- TCL1A /TCL1B translocation

Disease

May be upregulated in T-cell prolymphocytic leukemia (T-PLL) with t(14;14)(q11;q32.1) and in Burkitt lymphoma

Oncogenesis

TCL1 over expression by chromosomal rearrangement is a critical oncogenetic mechanism in T-PLL; a role for TCL1B over expression in oncogenesis is not yet shown.

References

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