

Leukaemia Section

Short Communication

t(3;3)(q27;q27) ST6GAL1/BCL6 / del(3)(q27q27) ST6GAL1/BCL6

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Clinics and pathology

Disease

Non Hodgkin Lymphoma

Clinics

Two cases of follicular lymphoma transformed to diffuse aggressive lymphoma, from a study with no individual data (Akasaka et al., 2003; cited by Ohno, 2006).

Cytogenetics

Cytogenetics morphological

Cryptic rearrangement.

Genes involved and proteins

ST6GAL1

Location

3q27.3

Note

ST6GAL1 (ST6 beta-galactosamide alpha-2,6-sialyltransferase 1) is also known under the name of SIAT1, and was described as such in the Alaska's report.

Protein

406 amino acids; glycosyltransferase (Wu et al., 2011).

BCL6

Location

3q27.3

Protein

706 amino acids; composed of a NH₂-term BTB/POZ domain (amino acids 1-130 (32-99 according to Swiss-Prot) which mediates homodimerization and protein-protein interactions with other corepressors (including HDAC1 and NCOR2/SMRT to constitute a large repressing complex, another transcription repression domain (191-386), PEST sequences (300-417) with a KKYK motif (375-379), and six zinc finger at the C-term (518-541, 546-568, 574-596, 602-624, 630-652, 658-681), responsible for sequence specific DNA binding. Transcription repressor; recognizes the consensus sequence: TTCCT(A/C)GAA (Albagli-Curiel, 2003). Role in germinal centers of lymphoid follicles. BCL6 prevents ATM and TP53 to induce apoptosis in response to DNA rearrangements such as somatic hypermutation and class switch recombination. Therefore essential for normal B cell development.

Result of the chromosomal anomaly

Hybrid gene

Note

ST6GAL1 and BCL6 are normally separated by 699.5 kb.

References

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