Leukaemia Section
Short Communication

**t(1;3)(q25;q27) GAS5/BCL6**

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### Clinics and pathology

**Disease**
Non Hodgkin lymphoma

**Epidemiology**
Two cases to date: two male patients (one was aged 49-years) with diffuse large B-cell lymphoma (Chenevix-Trench et al., 1988; Nakamura et al., 2008).

**Prognosis**
The patient reported in Nakamura et al., 2008 was treated with chemotherapy, but died of progressive disease 7 months after the diagnosis.

### Cytogenetics

**Additional anomalies**
Non specific additional anomalies were present in both cases.

### Genes involved and proteins

**Note**
The genes involved in the translocation were, indeed, described in the most recent report.

**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.

**GAS5**

**Location**
1q25.1

**Protein**
GAS5 exons do not encode a polypeptide product (small nucleolar RNA (snoRNA) sequence) of the 5'TOP gene family; role in the regulation of cell growth; provokes growth arrest; overexpression of GAS5 transcripts is reported to induce apoptosis.

### Result of the chromosomal anomaly

**Hybrid gene**

**Description**
The 5'-terminal oligopyrimidine sequence of GAS5 was fused to the whole coding sequence of BCL6: GAS5 exon 3 was fused to BCL6 exon 2 (BCL6 exon 1 is noncoding).

### References


This article should be referenced as such: