

SET oncogene is upregulated in pediatric acute lymphoblastic leukemia

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ABSTRACT

Aims and background. The SET gene is a target of chromosomal translocations in acute leukemia and encodes a widely expressed multifunctional phosphoprotein. It has been shown that SET is upregulated in BCR-ABL1-positive cell lines, patient-derived chronic myeloid leukemia CD34-positive cells, and some solid tumors.

Methods and study design. We determined the expression level of SET in 59 pediatric acute lymphoblastic leukemia patients who were BCR-ABL-negative using quantitative real-time reverse-transcriptase-polymerase chain reaction.

Results. We showed that SET expression was significantly upregulated in 96.5% of B-acute lymphoblastic leukemia (28 of 29; 16.6 fold) and 93% of T-acute lymphoblastic leukemia (28 of 30; 47.6 fold) patients. This upregulation was not associated with any clinical features or overall and relapse-free survival.

Conclusions. Our results showed that SET is significantly overexpressed in pediatric acute lymphoblastic leukemia samples, and an increased level of SET might contribute to leukemic process.

Key words: acute lymphoblastic leukemia, pediatric ALL, SET, SET over-expression.

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