

# ImmunoTools IT-Box-139 Award 2012



**Nils Zänker**

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## **A human induced pluripotent stem cell model of ETV6/RUNX1 positive acute lymphoblastic leukemia**

Among acute lymphoblastic leukemias (ALL), the most common pediatric cancer, a subtype of B-cell precursor ALL (BCP-ALL) carrying the *ETV6/RUNX1* (*E/R*) fusion gene accounts for nearly a quarter of cases. Current knowledge indicates that the t(12;21) chromosomal translocation generating the fusion of the transcription factors *ETV6* and *RUNX1*, two important regulators of hematopoiesis, represents the first event in leukemogenesis. The expression of this fusion oncogene apparently affects normal hematopoietic differentiation by the formation of preleukemic progenitor cell populations (CD34<sup>+</sup> / CD38<sup>-low</sup> / CD19<sup>+</sup>) with a differentiation blockade in the transition from the pro-B to pre-B stage. Furthermore, its expression seems to be indispensable for maintaining the malignant phenotype in fully developed ALL.

However, current knowledge on the pathogenesis of this ALL, in particular on dysregulated *ETV6-RUNX1* target genes, affected cellular signaling pathways as well as the exact nature of phenotypic changes induced by the fusion oncogene, still remains insufficient. Our new human induced pluripotent stem cell (hiPSC) model of *E/R*<sup>+</sup> ALL is expected to help understanding early events in leukemogenesis and may also be useful for tests of antileukemic agents.

The **ImmunoTools** IT-Box-139 antibodies enable us to perform comprehensive flow cytometric analyses of phenotypic changes in *E/R*<sup>+</sup> hiPSCs and give valuable insights into early leukemogenesis.

### **ImmunoTools** IT-Box-139 for Nils Zänker includes 100 antibodies

**FITC** - conjugated anti-human CD1a, CD3, CD4, CD5, CD6, CD7, CD8, CD14, CD15, CD16, CD19, CD21, CD25, CD29, CD35, CD36, CD41a, CD42b, CD45, CD45RA, CD45RB, CD45RO, CD49d, CD53, CD57, CD61, CD63, CD80, CD86, HLA-DR, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

**PE** - conjugated anti-human CD3, CD4, CD8, CD11b, CD15, CD14, CD18, CD19, CD20, CD21, CD22, CD31, CD33, CD38, CD40, CD45, CD45RB, CD50, CD52, CD56, CD58, CD62p, CD72, CD95, CD105, CD147, CD177, CD235a, HLA-ABC, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

**PE/Dy647** -tandem conjugated anti-human CD3, CD4, CD8, CD14, CD19, CD20, CD25, CD54

**APC** -conjugated anti-human CD2, CD3, CD4, CD8, CD10, CD11a, CD11c, CD14, CD16, CD27, CD37, CD42b, CD44, CD45, CD59, CD62L, CD69, CD71, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

[DETAILS](#)