TITLE

LINC00152 expression in normal and Chronic Lymphocytic Leukemia B cells

RUNNING TITLE

LINC00152 can be modulated in normal and CLL B cells

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KEYWORDS:

Chronic Lymphocytic Leukemia, LINC00152, long non-coding RNAs, memory B cells, naïve B cells

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ABSTRACT

Long non-coding RNAs (lncRNAs) are emerging as essential regulators of gene expression, but their role in normal and neoplastic B cells is still largely uncharacterized. Here, we report on the expression pattern of the LINC00152 in normal B cells and Chronic Lymphocytic Leukemia B cell clones. Higher LINC00152 levels were consistently observed in memory B cell populations when compared to naïve B cells in the normal tissues analyzed [peripheral blood (PB), tonsils, and spleen]. In addition, independent stimulation via Immunoglobulins (IG), CD40, or Toll-like Receptor 9 (TLR9) upregulated LINC00152 in PB B cells. The expression of LINC00152 in a cohort of 107 early-stage Binet A CLL patients was highly variable and did not correlate with known prognostic markers or clinical evolution. TLR9 stimulation, but not CD40 or IG challenge, was able to upregulate LINC00152 expression in CLL cells. However, LINC00152 silencing in CLL cell lines expressing LINC00152 failed to induce significant cell survival or apoptosis changes. These data suggest that, in normal B cells, the expression of LINC00152 is regulated by immunomodulatory signals, which are only partially effective in CLL cells. However, LINC00152 does not appear to contribute to CLL cell expansion and/or survival in a cohort of newly diagnosed CLL patients.