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LNCRNA-ENST00000414355 REGULATES CELL PROLIFERATION AND APOPTOSIS IN ACUTE MYELOID LEUKEMIA

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Objective: Increasing evidence suggests that long non-coding RNAs (lncRNAs) are involved in a variety of physiological and pathophysiological processes of cancer, but whether lncRNAs can serve as an important role in acute leukemia is still unclear. This study was designed to investigate the effect of LncRNA-ENST00000414355 in regulating cell proliferation and apoptosis in acute myeloid leukemia.

Methods: HL-60 K562 THP-1 and U937 cells were transfected with si-ENST00000414355 and si-NC, respectively, MTT assay was performed to determine the proliferation, cell apoptosis was assayed by flow cytometry using Annexin V-FITC/PI. Bone marrow (BM) samples were obtained from 10 AML patients and five healthy volunteers in Guangzhou First People's Hospital. The LncRNA-ENST00000414355 expression of the BM samples was detected using qPCR.

Results: We found that the expression of LncRNA-ENST00000414355 in AML cells was significantly knock-down after 72 h treated with si-ENST00000414355. Down regulation of LncRNA-ENST00000414355 in AML cell lines HL-60 K562 THP-1 and U937 inhibited cell proliferation, and induced cell apoptosis. LncRNA-ENST00000414355 expression was markedly up-regulated in AML patients' bone marrow samples comparing with the healthy volunteers' ($P < 0.01$).

Conclusions: Results indicated that LncRNA-ENST00000414355 level up-regulated in AML and regulates cell proliferation and apoptosis.

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