

长链非编码DLEU1靶向miR-7的表达通过BCR信号通路调控儿童白血病细胞的生物学行为

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Title: Long non-coding DLEU1-targeted miR-7 expression regulates the biological behavior of childhood leukemia cells by BCR signaling pathway

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摘要: 目的: 研究长链非编码DLEU1调控儿童白血病细胞生物学行为的作用及其机制。方法: qPCR检测不同白血病细胞中DLEU1的表达情况; 双荧光素酶报告基因检测DLEU1与miR-7的相互作用; 划痕愈合实验检测过表达DLEU1后白血病细胞迁移能力的变化; Transwell侵袭实验检测过表达DLEU1后白血病细胞侵袭能力的变化; 划痕愈合实验和Transwell侵袭实验检测过表达DLEU1后miR-7对白血病细胞迁移和侵袭能力的影响; Western blotting检测过表达DLEU1后BCR信号通路蛋白的表达情况。结果: 在白血病细胞KG-1中DLEU1表达水平最低; DLEU1能与miR-7的3' UTR特异性结合; 过表达DLEU1可以抑制白血病细胞侵袭和迁移能力; 过表达DLEU1后, 过表达miR-7可以促进白血病细胞侵袭和迁移能力; 过表达DLEU1后BCR通路蛋白表达相应下调。结论: DLEU1可以靶向调节miR-7通过BCR信号通路调控白血病细胞的侵袭和迁移能力。

Abstract: Objective: To investigate the effect and mechanism of long non-coding DLEU1 regulating the biological behavior of childhood leukemia cells. Methods: The expression of DLEU1 in different leukemia cells was detected by qPCR. Double luciferase reporter gene was used to detect the interaction between DLEU1 and miR-7. The changes of leukemia cells migration ability after silencing DLEU1 were detected by scratch healing experiment. Transwell invasion assay was used to detect the invasion ability of leukemia cells after silencing DLEU1. Scratch healing experiment and Transwell invasion test were used to detect the effect of miR-7 on the migration and invasion of leukemia cells after silencing DLEU1. Western blotting was used to detect the expression of BCR signaling pathway after silencing DLEU1. Results: The expression level of DLEU1 was the lowest in leukemia cells KG-1. DLEU1 could bind specifically to the 3' UTR of miR-7. Silence DLEU1 can inhibit leukemia cells invasion and migration ability. Overexpression of miR-7 can promote the invasion and migration of leukemia cells after silencing DLEU1. The expression of BCR pathway protein was down-regulated after silencing DLEU1. Conclusion: DLEU1 can regulate the invasion and migration of leukemic cells through the regulation of miR-7 through BCR signaling pathway.

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