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Research Article

Effects of the Zinc Finger Protein 485 (ZNF485) on the Proliferation, Metastasis and Invasion of Bladder Cancer Cells

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ABSTRACT

Objectives: Bladder cancer is the second most common urological cancer worldwide with low early diagnosis and high mortality. The limited progress on the diagnostics and treatment largely impedes the survival of bladder cancer patients.

Methods: Potential therapeutic biomarkers are urgently needed for future clinic treatment. We performed the RNA-seq assays and identified a new gene zinc finger protein 485, termed ZNF485, which is highly expressed in the tissues of bladder cancer patients.

Results: We found that inhibition of ZNF485 in bladder cancer cell line T24 and 5637 can obviously inhibit the proliferation and promotes the apoptosis of cancer cells. Furthermore, the wound healing and invasion assays showed that down-regulation of ZNF485 significantly decreased the mobility and invasion of T24 and 5637 cells. In addition, ZNF485-siRNA transfected obviously inhibited tumor growth in nude mice.

Conclusion: Taken together, the results provide evidence that ZNF485 is involved in the tumorigenesis of bladder cancer, which might be a potential therapeutic biomarker for the treatment of this disease.

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