

Available online at www.sciencerepository.org

Science Repository



Research Article

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

Yiao Tan¹, Fangfang Zhao², Chunbao Zang³, Shuhan Liu¹, Tao Huang¹, Lingsuo Kong⁴, Fangfang Ge⁵, Dabing Huang^{6*} and Youguang Pu^{2*}

¹Department of Urology Surgery, West Branch of the First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, P.R. China

²Department of Cancer Epigenetics Program, Anhui Provincial Cancer Hospital, West Branch of The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, P.R. China

³Department of Radiation Oncology, Anhui Provincial Cancer Hospital, West Branch of The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, P.R. China

⁴Department of Anesthesiology, West Branch of The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, P.R. China

⁵Department of Provincial Clinical College, Wannan Medical College, Wuhu, Anhui, P.R. China

⁶Department of Oncology, The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, P.R. China

ARTICLE INFO

Article history:

Received: 13 July, 2021

Accepted: 29 July, 2021

Published: 20 August, 2021

Keywords:

Bladder cancer

ZNF485

proliferation

metastasis

invasion

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.

© 2021 Dabing Huang & Youguang Pu. Hosting by Science Repository.

Get access to the full version of this article: <http://dx.doi.org/10.31487/j.COR.2021.08.03>

*Correspondence to: Dabing Huang, Department of Oncology, The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, 230001, P.R. China; Tel: +8655165327753; E-mail: hdabing@ustc.edu.cn

Youguang Pu, Department of Cancer Epigenetics Program, Anhui Provincial Cancer Hospital, West Branch of The First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, Anhui, 230001, P.R. China; Tel: +8655165897835; E-mail: pyg@ustc.edu.cn