

Long Non-coding RNA ZBED5-AS1 Is Down-regulated in Tumor Cells of Patients with Breast Cancer

Mehran Naeimi ¹, Mohammad Shafiee ^{2,3,*}, M. Mahdi Forghanifard ¹, Fatemeh T. Shamsabadi ⁴, Abdolreza Fazel ⁴, Samira Ghasemi ²

¹ Damghan Branch, Islamic Azad University, Damghan, Iran

² Stem Cell Research Center, Golestan University of Medical Sciences, Gorgan, Iran

³ Golestan Research Center of Gastroenterology & Hepatology, Golestan University of Medical Sciences, Gorgan Iran

⁴ Cancer Research Center, Golestan University of Medical Science, Gorgan, Iran

* Corresponding author: Mohammad Shafiee, Stem Cell Research Center, and Golestan Research Center of Gastroenterology & Hepatology, Golestan University of Medical Sciences, Gorgan Iran. E-mail: mohshaf@gmail.com

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Abstract

Introduction: Breast cancer is the most frequent carcinoma in females and the second most common cause of cancer-related mortality in women. Over 508,000 women died in 2011 due to breast cancer worldwide (Global Health Estimates, WHO 2013). In humans, almost 1-2% of the genome is protein-coding, and substantial fractions of the genome (~80%) can be transcribed into noncoding RNAs (ncRNAs) with no protein-coding capacity. lncRNAs are transcripts with up to 200 base pairs length that lack an extended open reading frame and so do not code for proteins. aberrant expression some of lncRNAs have been reported in breast cancer tumor tissues. So far this is the first report of the expression level of ZBED5-AS1 lncRNA in breast cancer.

Materials and Methods: Total cellular RNA was isolated from 36 samples of breast tumor tissues and their adjacent normal ones. cDNA was synthesized separately from each sample. Expression level of ZBED5-AS1 was quantified by Real-Time RT-PCR in each sample. Data was analysed statistically.

Results: The results showed decreased expression level of ZBED5-AS1 lncRNA in breast tumor tissues compared to adjacent normal ones.

Conclusions: This is the first report on the expression level of ZBED5-AS1 gene in breast tumor tissues. Our data provide evidence that down-regulation of ZBED5-AS1 may point to its tumor suppressor role which its proof needs to further investigation.