

9<sup>th</sup> WORLD BIOMARKERS CONGRESS20<sup>th</sup> International Conference on

&amp;

## PHARMACEUTICAL BIOTECHNOLOGY

December 07-09, 2017 | Madrid, Spain

**Investigation of GGT5 and GGT7 mRNA expressions in patients with breast cancer**Sevgi Yardim Akaydin<sup>1</sup>, Dilek Güngör<sup>1</sup>, Ece Salihoglu<sup>1</sup>, Hasan Karanlik<sup>2</sup> and Semra Demokan<sup>2</sup><sup>1</sup>Gazi University School of Pharmacy, Turkey<sup>2</sup>Istanbul University, Turkey

An increased risk of breast cancer has been reported in individuals with elevated levels of gamma-glutamyltransferase (GGT) recently or in literature. Genome research indicated that besides GGT1, the human genome contains additional related genes or sequences. From the perspective of amino acid sequences, genes with substantial (GGT5 and GGT7) similarity to GGT1 have been identified. The aim of this study was to evaluate the association of gene expression of GGT5 and GGT7 with the breast cancer. For that purpose, tissue and serum samples were taken from 58 patients diagnosed with breast cancer. As controls, 8 healthy persons admitted to the clinic for breast reduction surgery were also included to the study. mRNA expressions of GGT5 and GGT7 in matched-normal and tumor tissues of breast cancer patients and normal tissues of healthy controls were measured by qRT-PCR method. In addition, GGT activity and glutathione (GSH) levels in serum samples were measured by spectrophotometric and ELISA methods, respectively. In the patient cohort, mRNA expressions of GGT5 and GGT7 were increased in tumor tissues than those in matched-normal tissues of the same patients ( $p < 0.0001$  and  $p < 0.001$ , respectively). 52% and 62% of the patients had shown higher GGT5 and GGT7 gene expression respectively, in tumors compared to matched-normal tissues. Also, GGT enzyme activity was significantly higher in patients than those in controls ( $p < 0.05$ ) and it was positively correlated with GSH levels in both controls and patients ( $p < 0.05$  and  $p < 0.0001$ , respectively). However, we could not find any correlation between neither GGT nor GSH and GGT genes. As far as we know, this is the first study showing GGT5 and GGT7 mRNA expression levels in the patients with breast cancer. Higher expressions in tumor tissues indicated the importance of these genes in the breast carcinogenesis. Our studies on protein expressions and then possible functions of these genes are ongoing in our lab.

**Biography**

Sevgi Akaydin is currently Professor of Gazi University Faculty of Pharmacy Department of Biochemistry. She earned her MD and PhD degree at Gazi University Faculty of Pharmacy Department of Biochemistry. She focused on cardiovascular disease, oxidative stress and oxidative biomarkers. Her current research focuses on DNA repair mechanism in molecular subtypes of breast cancer. She has 35 refereed publications and her h-index is 13. Her published works deal with cardiovascular disease, oxidative stress, oxidative biomarkers and related proteins in cancer.

syakaydin@hotmail.com

**Notes:**