

Analysis of Relative Gene Expression Data of GATA3-AS1 Associated with Resistance to Neoadjuvant Chemotherapy in Locally Advanced Breast Cancer Patients of Luminal B Subtype

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Abstract : The goal of this study is to validate the overexpression of the lncRNA GATA3-AS1 associated with resistance to neoadjuvant chemotherapy of female patients with locally advanced mammary adenocarcinoma of luminal B subtype. This study involved a cohort of one hundred thirty-seven samples for which total RNA was isolated from formalin fixed paraffin embedded (FFPE) tissue. Samples were cut using a Microtome Hyrax M25 Zeiss and RNA was isolated using the RNeasy FFPE kit and a deparaffinization solution, the next step consisted in the analysis of RNA concentration and quality, then 18 µg of RNA was treated with DNase I, and cDNA was synthesized from 50 ng total RNA, finally real-time PCR was performed with SYBR Green/ROX qPCR Master Mix in order to determine relative gene expression using RPS28 as a housekeeping gene to normalize in a fold calculation ΔCt . As a result, we validated by real-time PCR that the overexpression of the lncRNA GATA3-AS1 is associated with resistance to neoadjuvant chemotherapy in locally advanced breast cancer patients of luminal B subtype.

Keywords : breast cancer, biomarkers, genomics, neoadjuvant chemotherapy, lncRNAs

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