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The Cancer Control Challenge:
Better Understanding It to Better Face It

EXPRESSION PROFILES OF *ITGA5*, *ITGB1*, *TGFB1*, *EPHA2*, *NRP*, AND *CR2* IN EPSTEIN-BARR VIRUS ASSOCIATED GASTRIC CANCER

Mylla Agatha Meggie Soares Menezes[1], Joyhare Barbosa Souza[1], Gisella da Costa Oliveira[1], Alex Santos Guedes[1], Thalia Gonçalves Goulart[1], Karina Glazianne Barbosa Carvalho[1], Gabriela Santos da Cruz[1], Samir Mansour Moraes Casseb[1]

[1]Universidade Federal do Pará

Introduction: Epstein-Barr virus (EBV)-associated gastric cancer (GC) represents a distinct molecular subtype of the disease, characterized by specific immunological and genetic features. Viral entry and persistence may be associated with modulation of the expression of genes related to cell adhesion, immune response, and intercellular communication. This study aimed to evaluate the expression profiles of the *genes ITGA5, ITGB1, TGFB1, EPHA2, NRP1*, and CR2 in EBV-positive and EBV-negative GC samples, in order to identify potential targets involved in tumor biology and viral infection. **Objective:** To evaluate the expression profiles of the genes *ITGA5, ITGB1, TGFB1, EPHA2, NRP1*, and CR2 in Epstein-Barr virus-positive and -negative gastric cancer samples, aiming to identify potential molecular targets involved in tumor biology and viral infection. **Methods**: Public transcriptomic data from the GSE51575 dataset, available in the Gene Expression Omnibus (GEO) database, were used. Differential expression analysis was conducted using the GEO2R tool, comparing EBV-positive and EBV-negative gastric cancer samples. The genes of interest were manually mapped in the results table based on their identifiers and full names. **Results**: Among the genes evaluated, *ITGA5, ITGB1, TGFB1, EPHA2,* and *NRP1* showed detectable expression in the samples, with variations between the EBV-positive and EBV-negative groups. Although most genes did not reach statistical significance after correction for multiple testing, a trend toward overexpression of *ITGA5* and *EPHA2* was observed in EBV-positive samples, suggesting possible involvement in virus-cell interaction. The CR2 gene was not clearly detected in the dataset samples. **Conclusion**: Preliminary results indicate possible differences in the expression of genes involved in cell adhesion and signaling in EBV-associated gastric tumors. These findings support further investigations into the role of these genes in viral infection and tumor progression, as well as reinforce the usefulness of public databases for exploratory studies in oncovirology.

Keywords: Epstein-Barr virus; Gastric cancer; Gene expression