NATE

RPSA

**HLA.DRA**

TRBV9

**LY6E**

**HSP90B1**

**IGHD**

**SLC7A5**

**PCNA**

HLA-DR in Cytotoxic T Lymphocytes Predicts Breast Cancer Patients' Response to Neoadjuvant Chemotherapy. Prediction of breast cancer response to Neoadjuvant Chemotherapy (NACT) is an urgent need to promptly direct non-responder patients to alternative therapies. Infiltrating T lymphocytes, namely cytotoxic T lymphocytes (CTLs) have been appointed as predictors of response.  <https://pubmed.ncbi.nlm.nih.gov/30555458/>

Lymphocyte antigen 6 complex, locus E (LY6E) has been implicated in the malignant progression of various types of cancers; however, the underlying mechanism remains unclear. LY6E expression levels were significantly higher in human breast cancers than in normal breast tissues, and were strongly associated with the poor prognoses of various cancer patients.

Proteomic Analyses Reveal High Expression of Decorin and Endoplasmin (HSP90B1) Are Associated with Breast Cancer Metastasis and Decreased Survival

A prospective study revealing the role of an immune-related eRNA, WAKMAR2, in breast cancer

The immunoglobulin-related genes IGHA1 and IGHD have been reported to inhibit the recurrence of breast cancer30, which is consistent with the results of this study.

<https://www.nature.com/articles/s41598-021-94784-3>

Co-Expression Effect of SLC7A5/SLC3A2 to Predict Response to Endocrine Therapy in Oestrogen-Receptor-Positive Breast Cancer. The majority of breast cancers are oestrogen-receptor-positive (ER+) and are subject to endocrine therapy; however, an unpredictable subgroup of patients will develop resistance to endocrine therapy. The SLC7A5/SLC3A2 complex is a major route for the transport of large neutral essential amino acids through the plasma membrane. Alterations in the expression and function of those amino-acid transporters lead to metabolic reprogramming, which contributes to the tumorigenesis and drug resistance. This study aims to assess the effects and roles of SLC7A5/SLC3A2 co-expression in predicting responses to endocrine therapy in patients with ER+ breast cancer. <https://www.mdpi.com/1422-0067/21/4/1407>

Tyrosine 211 (Y211) phosphorylation of proliferation cell nuclear antigen (PCNA) coincides with pronounced cancer cell proliferation and correlates with poor survival of breast cancer patients. In epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor (TKI)-resistant cells, both nuclear EGFR (nEGFR) expression and PCNA Y211 phosphorylation are increased. Moreover, the resistance to EGFR TKI is a major clinical problem in treating EGFR-overexpressing triple-negative breast cancer (TNBC). Thus, effective treatment to combat resistance is urgently needed. Here, we show that treatment of cell-penetrating PCNA peptide (CPPP) inhibits growth and induces apoptosis of human TNBC cells.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0061362>