

POSTER PRESENTATION

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Towards targeting PD-1/PD-L1 axis in breast cancer, pre-clinical data

Hazem Ghebeh^{1*}, Dilek Colak², Asma Tulbah³, Abdullah Alsuliman¹

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PD-L1 is a ligand that upon binding to its receptor (PD-1) on T-cells leads to T-cell anergy/and or apoptosis [1,2]. We have shown that PD-L1 is expressed in breast cancer where its expression correlates with estrogen receptor (ER) negativity [3]. To understand the mechanism of the constitutive expression of PD-L1 in tumor cells of ER negative cells we used gene-in and out approach, large scale bioinformatics and immunohistochemistry. We have demonstrated that epithelial to mesenchymal transition (EMT) upregulates PD-L1 expression while cells expressing ER downregulates PD-L1, in parallel with reversal of EMT process. Bioinformatics analysis of gene expression signatures of breast tumors showed a significant correlation between EMT score and PD-L1 mRNA expression. Strikingly, very strong association were found between PD-L1 expression and claudin low breast cancer, a subset of breast cancer known to have high EMT score. In conclusion, we have characterized the expression of PD-L1 in breast cancer and we have demonstrated a strong association between PD-L1 expression, EMT status and claudin-Low breast cancer. Our finding will be essential for choosing the appropriate subset of breast cancer patients that will likely benefit from anti-PD-L1 targeted therapy and understand biological changes upon anti-PD-L1 therapy.

Authors' details

¹Stem Cell & Tissue Re-engineering Program, King Faisal Specialist Hospital and Research Centre, Takhassusi Road, Al-Maathar, Riyadh, Saudi Arabia. ²Department of Biostatistics, Epidemiology and Scientific Computing, King Faisal Specialist Hospital & Research, Takhassusi Road, Al-Maathar, Riyadh, Saudi Arab. ³Department of Pathology and Laboratory Medicine, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arab.

¹Stem Cell & Tissue Re-engineering Program, King Faisal Specialist Hospital and Research Centre, Takhassusi Road, Al-Maathar, Riyadh, Saudi Arabia
Full list of author information is available at the end of the article

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