Tissue-derived peripheral biomarkers that reflect activity of T-cells, macrophages, and neutrophils in patients with solid tumors

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BACKGROUND

By identifying and quantifying specific extracellular protein fragments with neo-epitopes that are generated by proteolytic cleavage and post-translational modifications specific for T-cells, neutrophils and macrophages, respectively, it is possible to develop peripheral biomarkers that reflect the activity of these immune cells.

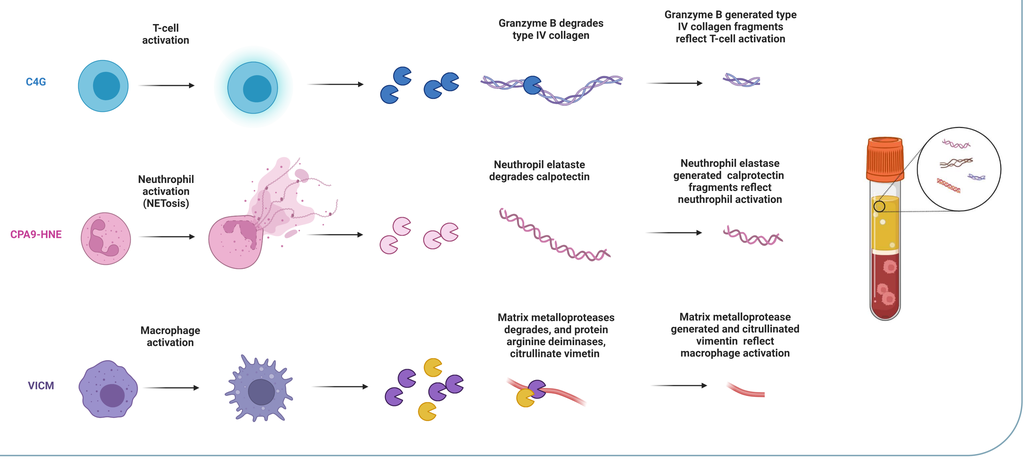
METHODS

Tissue-derived biomarkers related to activity of T-cells (C4G: Collagen-4 degraded by Granzyme B), Neutrophils (CPA9-HNE: Calprotectin degraded by neutrophil elastase), Macrophages (VICM: citrullinated and MMP-degraded vimentin) were measured by validated ELISA/ECLIA in serum from patients with various solid tumor types and healthy controls. Biomarker levels were compared to previously published data from metastatic melanoma patients showing associations with response to cancer immunotherapy.

CONCLUSION

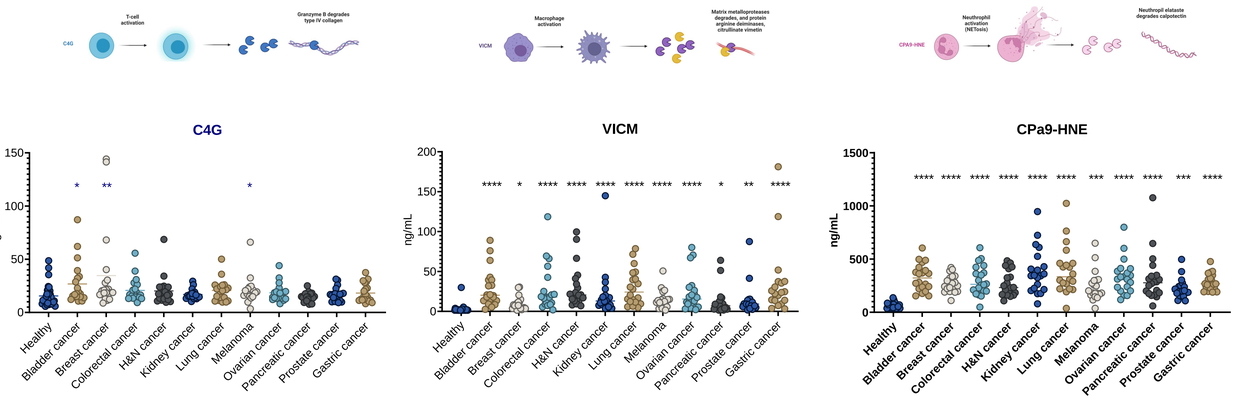
Tissue-derived peripheral biomarkers that reflect the activity of T-cells (C4G), macrophages (VICM) and neutrophils (CPA9HNE) has biomarker potential in solid tumors and may serve as prognostic, predictive and pharmacodynamic biomarkers in clinical trials investigating cancer immunotherapy

BIOMARKERS

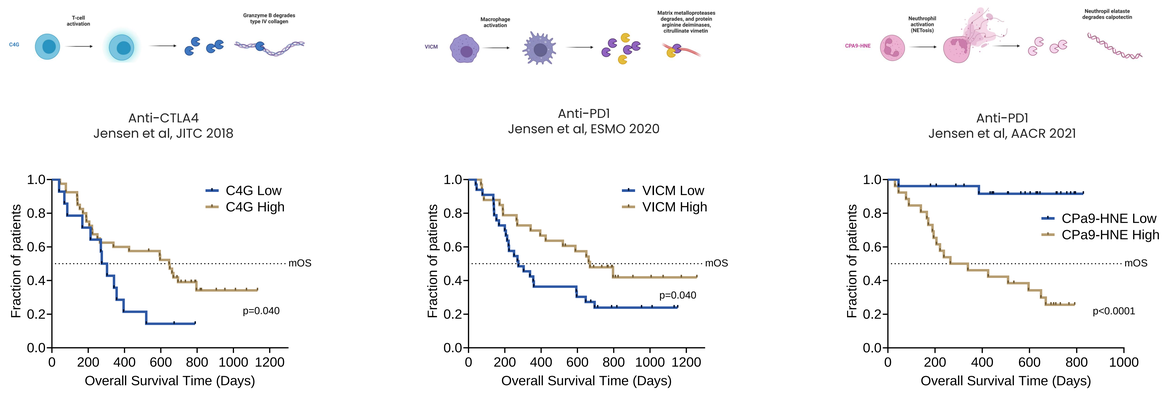


RESULTS

C4G (T-cell activity), CPA9-HNE (neutrophil activity/NETosis), VICM (macrophage activity) in serum from patients with various solid tumor



Previously published OS data from metastatic melanoma patients treated with immunotherapy



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