Additional file 11. Clustering analysis using CITRUS revealed 10 distinctive populations of CD4+ and CD8+ T cells. Automatic discovery of stratifying biological signatures to identify significantly different cell populations within tumor and blood samples was performed using the CITRUS algorithm (n=52, 11 healthy controls, 29 VSCC PBMC and 12 VSCC tumors). Analyses were done within the total CD3+ immune population for T cells. Phenotypic plots showing expression of the indicated cell surface markers for the identified CD8+ T-cell (# 1 to 5) and CD4+ T-cell (#6 to 10) populations. Expression of the designated markers is given in purple for the total analyzed immune cells and in red for the clustered cells (overlay).