

Figure S1: Expression of cell surface marker genes for APCs and epithelial cells in CC stratified by HPV+ ($\alpha 9$ or $\alpha 7$) and HPV- status. Normalized RNA-seq data for B cells, dendritic cells, macrophages, and epithelial cells were extracted from the CC cohort of the TCGA database. *** $p \leq 0.001$, ** $p \leq 0.01$, * $p = 0.05$, ns (not significant).

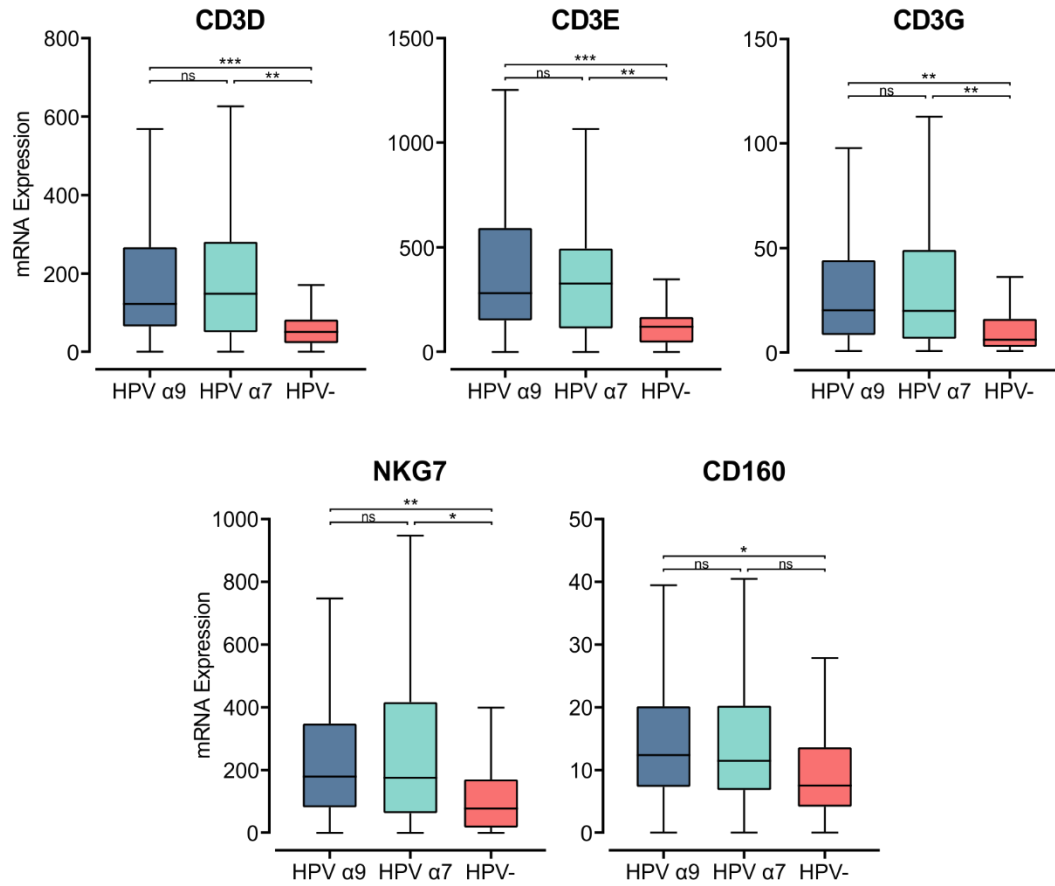


Figure S2: Expression of cell surface marker genes for IFN γ -producing lymphocytes in CC stratified by HPV+ (α 9 or α 7) and HPV- status. Normalized RNA-seq data for T cells and NK cells were extracted from the CC cohort of the TCGA database. *** $p \leq 0.001$, ** $p \leq 0.01$, * $p = 0.05$, ns (not significant).

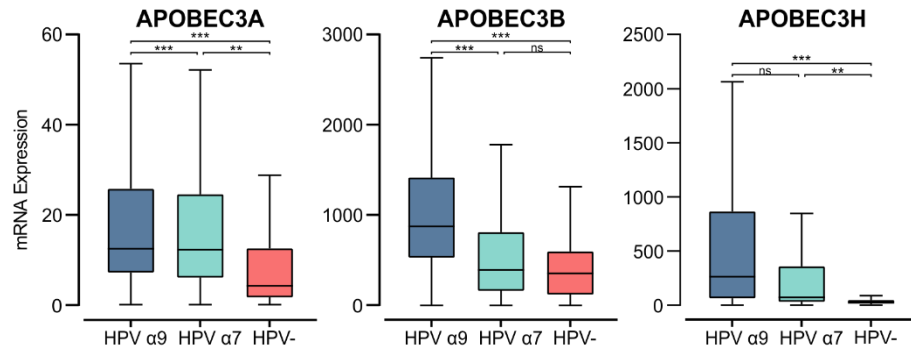


Figure S3: Expression of the *APOBEC 3A*, *3B*, and *3H* genes in CC, stratified by HPV+ ($\alpha 9$ or $\alpha 7$) and HPV- status. Normalized RNA-seq data for these genes were extracted from the CC cohort of the TCGA database. *** $p \leq 0.001$, ** $p \leq 0.01$, * $p = 0.05$, ns (not significant).