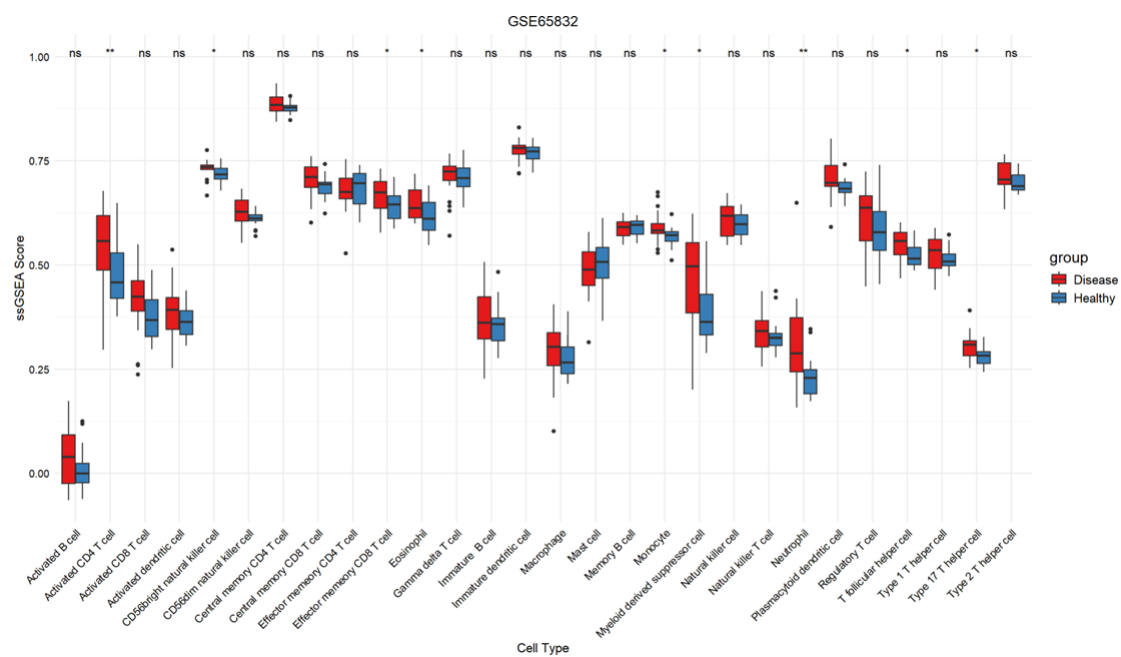


**Figure S1.** The ssGSEA results using the GSE65832 bulk RNA-seq dataset (AD vs. healthy controls)



**Figure S2.** (A) UMAP plots of scRNA-seq data (GSE269981) showing immune cell clusters (T cells, B cells, neutrophils, NK cells) in AD lesional vs. healthy skin. (B) Bar plots quantifying immune cell frequencies. AD lesions exhibited higher CD4 T cells, B cells, neutrophils and dendritic cells compared to healthy controls.

