

Supplementary Figure 4

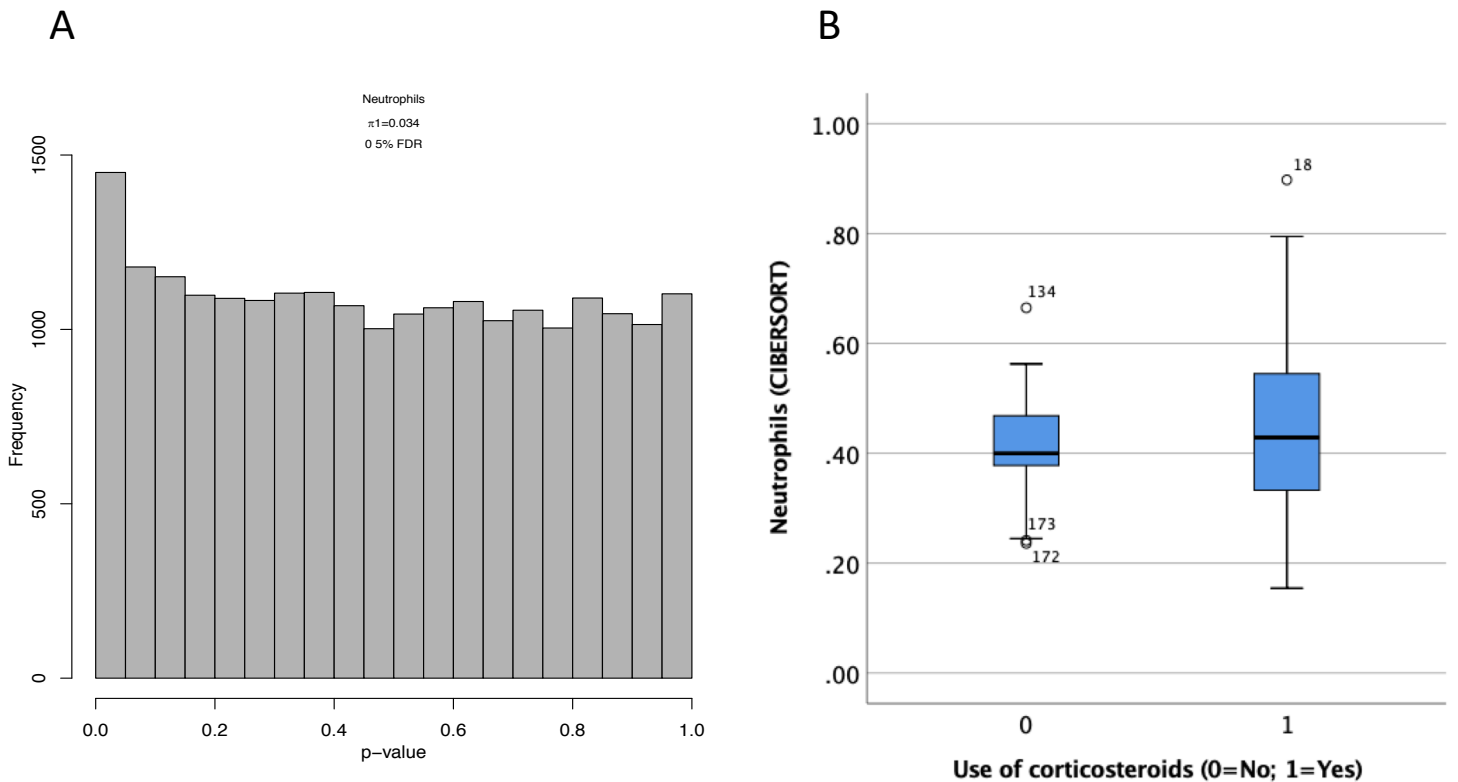


Figure S4. Effect of treatment with corticosteroids on neutrophil-specific gene expression in SLE versus healthy individuals

(A) Histogram of p-values for the *disease (SLE versus healthy) × neutrophil proportion* interaction term after introducing treatment with corticosteroids as an additional covariate in the model. The proportion of estimated true positives (π_1) and the number of significant genes at 5% FDR is shown. Compared to the analysis shown in Figure 2A, the π_1 metric for neutrophils decreased from 0.067 to 0.034 suggesting that treatment with corticosteroids might exert an effect. Nevertheless, the distribution of p-values is still left-skewed (i.e., towards smaller p-values), which implies divergent effects on gene expression in SLE versus healthy individuals with increasing proportion of circulating neutrophils, irrespective of the use of corticosteroids. Also, all 9 genes that were previously identified significant at 5% FDR (Figure 2A) are now significant at 15% FDR, suggesting that the signal of neutrophils acting as a differential metric between SLE and healthy controls is not completely lost after accounting for the effect of corticosteroids. **(B)** Box-plot analysis of the proportion of peripheral blood neutrophils (estimated by CIBERSORT) between SLE patients who were treated or not with corticosteroids. Of note, all patients were asked to abstain from their lupus medication (including corticosteroids) for at least 12 hours prior to blood sample collection (see *Methods* section). Results suggest no significant effect of corticosteroids on neutrophil counts.