

Figure S1. Infiltrating immunocytes differences. (A) The volcano-plot demonstrates the fold changes of 22 immunocytes in chronic periodontitis compared with aggressive. (B) Compositional differences of 22 immunocytes between chronic and aggressive periodontitis presented by violin-plot (blue means aggressive and red means chronic). (C) The volcano-plot demonstrates the fold changes of 22 immunocytes in male periodontitis compared with female. (D) Compositional differences of 22 immunocytes between male and female periodontitis presented by violin-plot (blue means male and red means female). (E) Correlations between infiltrating immunocyte fractions and patient ages were presented by bar-plot. (F-G) The two significantly age-related immunocytes were presented by scatter plot.



Figure S2 (A) Least absolute shrinkage and selection operator (LASSO) coefficient profiles of 22 immunocytes fractions. The dotted line indicates the value chosen by ten-fold cross-validation. (B) Ten-fold cross-validation for tuning parameter selection in the LASSO regression. The partial likelihood deviance is plotted against log (λ), where λ is the tuning parameter. Partial likelihood deviance values are shown, with error bars representing SE. The dotted vertical lines are drawn at the optimal values by minimum criteria and 1-SE criteria.



Figure S3. Supplementary information for immune subtype analysis. (A) Estimation of the rank: Quality measures computed from 200 runs for each value of r. (B) Estimation of the rank: Consensus matrices computed from 10 runs for each value of r. (C-D) Heatmap of the mixture coefficient and the basis matrices for all immune genes.



Figure S4. Supplementary information for WGCNA analysis. (A) analysis of the scale-free ft index for various soft-thresholding powers beta. (B) Analysis of the mean connectivity for various soft-thresholding powers. (C) The protein-protein interaction network of hub genes in turquoise module. (C) The top ten positive and negative plasma cell fraction related genes, calculated by pearson correlation analysis.