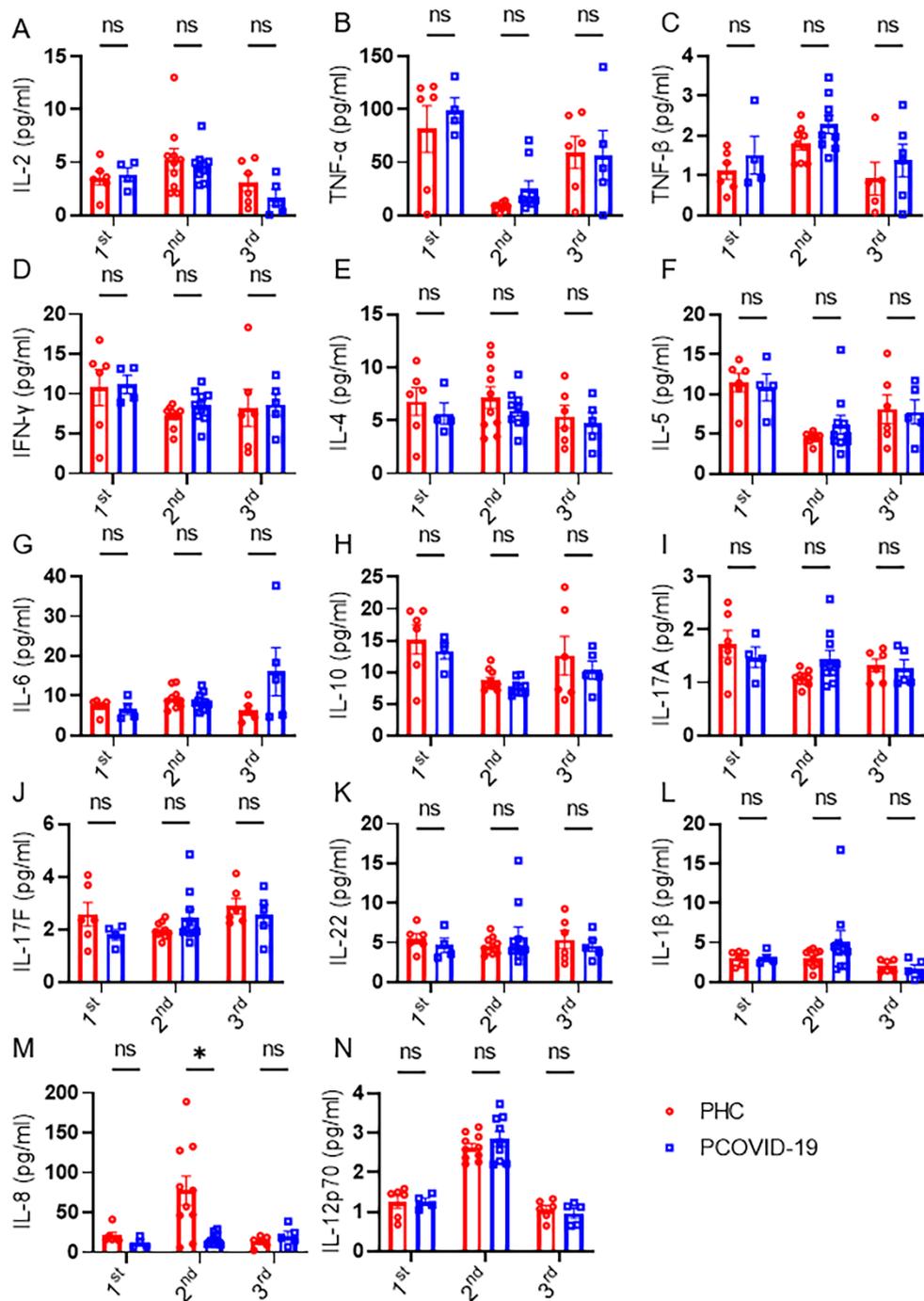
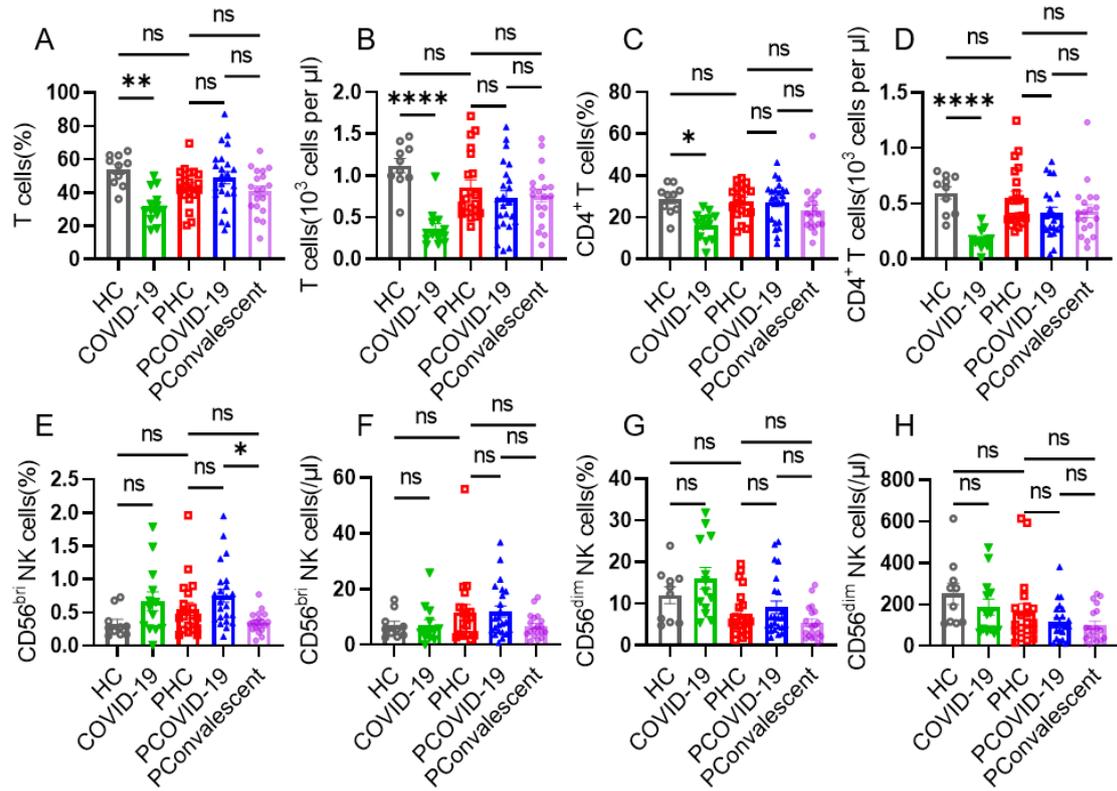


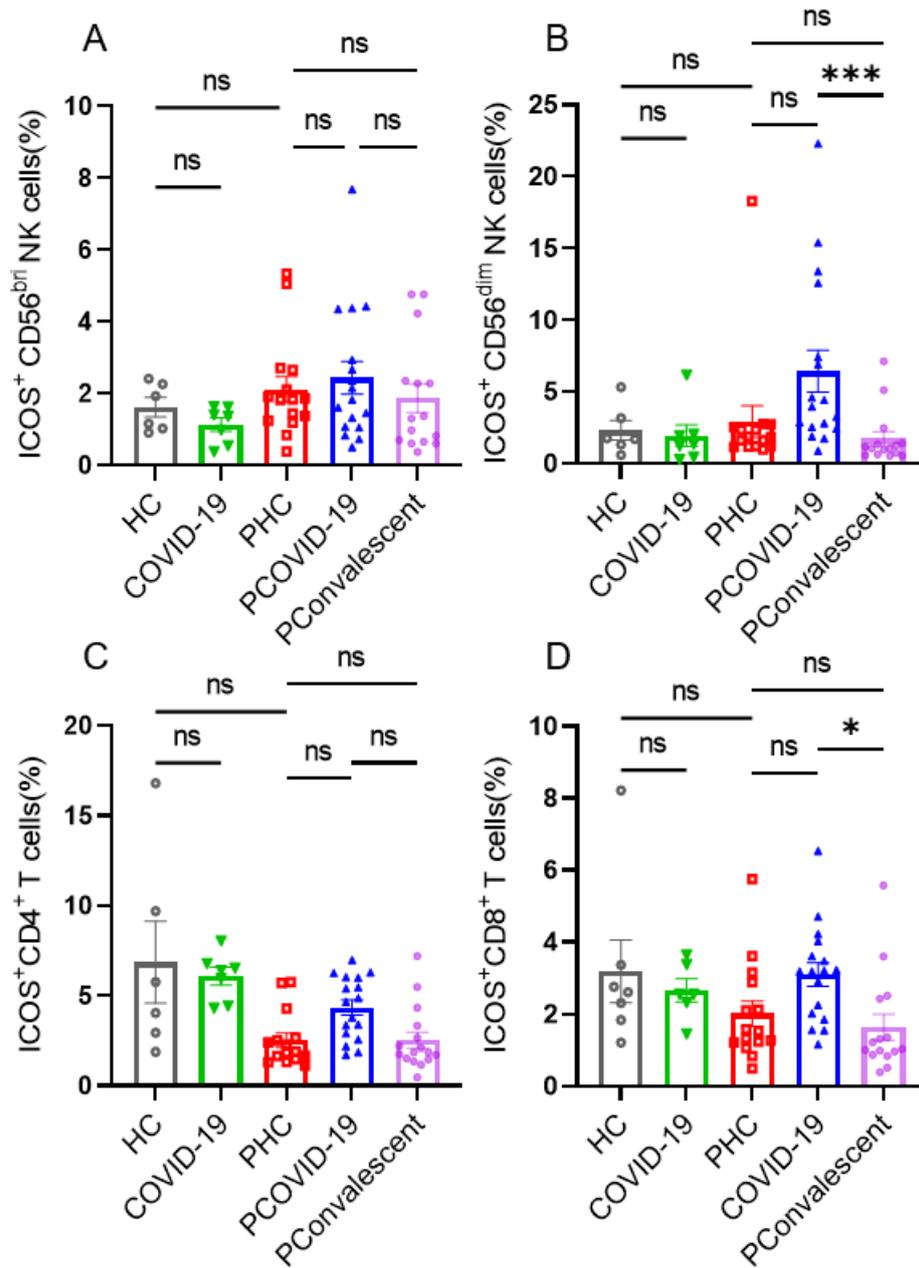
## Supplementary Figures



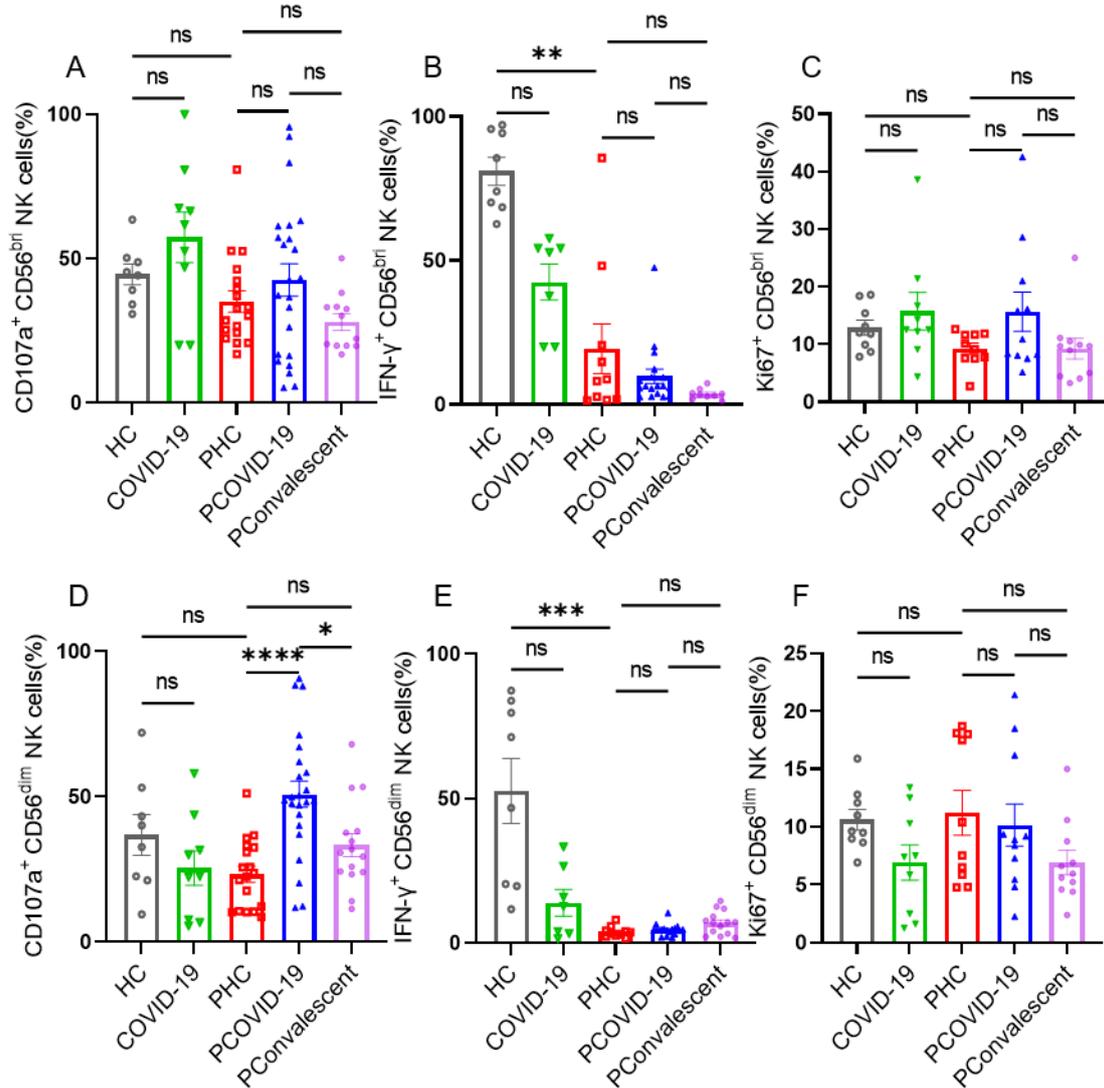
**Supplementary Figure 1.** Cytokine levels in healthy pregnant women and pregnant women with COVID-19. Comparison of cytokines levels of (A)IL-2, (B)TNF- $\alpha$ , (C)TNF- $\beta$ , (D)IFN- $\gamma$ , (E)IL-4, (F)IL-5, (G)IL-6, (H)IL-10, (I)IL-17A, (J)IL-17F, (K)IL-22, (L)IL-1 $\beta$ , (M)IL-8 and (N)IL-12p70 in healthy and COVID-19 positive pregnant women during different periods of pregnancy. Data are shown as mean  $\pm$  SEM. Multiple unpaired *t*-tests were used to determine statistical significance. \**P* < 0.05; ns, not significant.



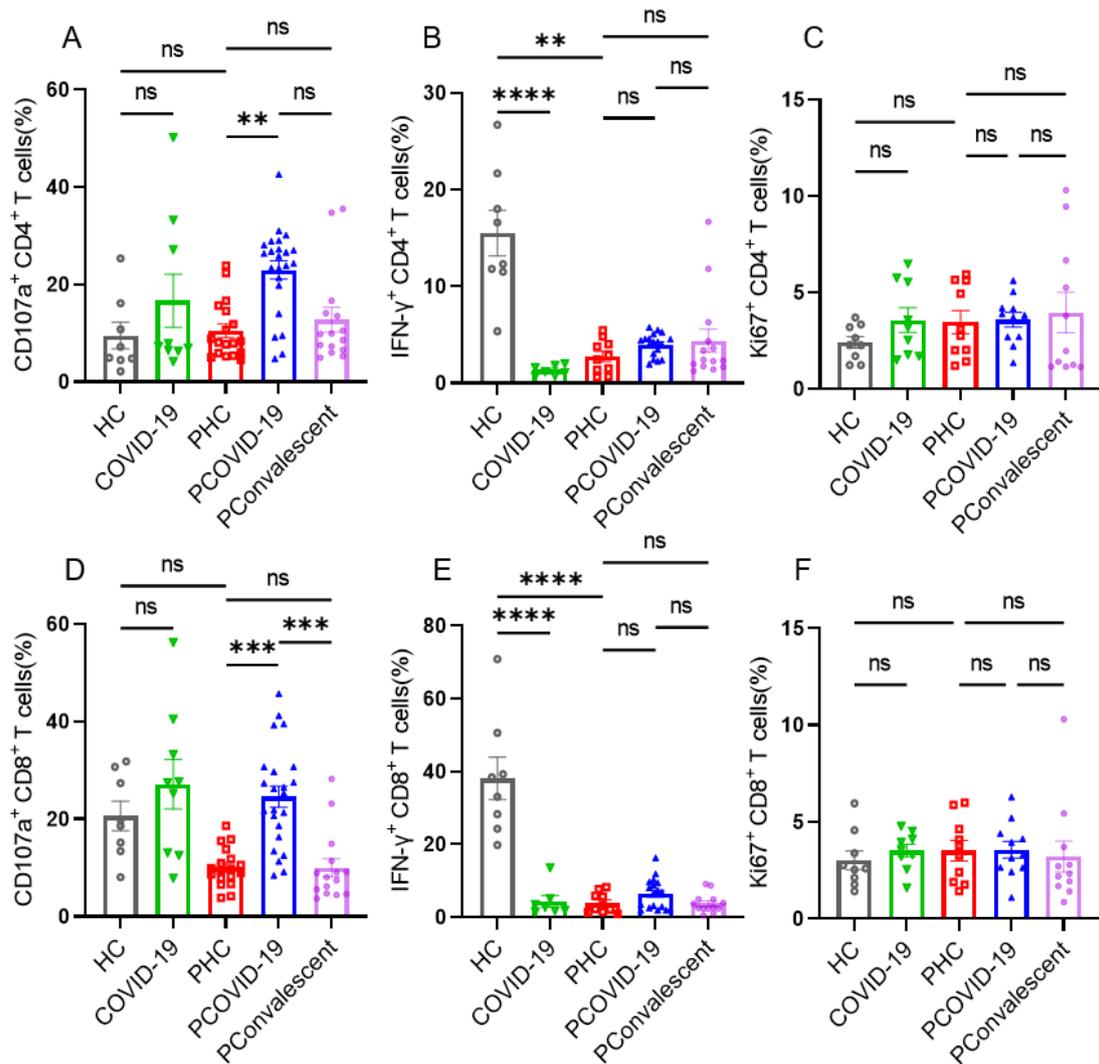
**Supplementary Figure 2.** The ratio and cellularity of different lymphocyte among the HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. The frequency and absolute count of (A-B) T cells, (C-D) CD4<sup>+</sup> T cells, (E-F) CD56<sup>bri</sup> NK cells and (G-H) CD56<sup>dim</sup> NK among the HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. Results are shown as mean ± SEM. One-way ANOVA was used to determine statistical significance. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\*\* $P < 0.0001$ , ns, not significant.



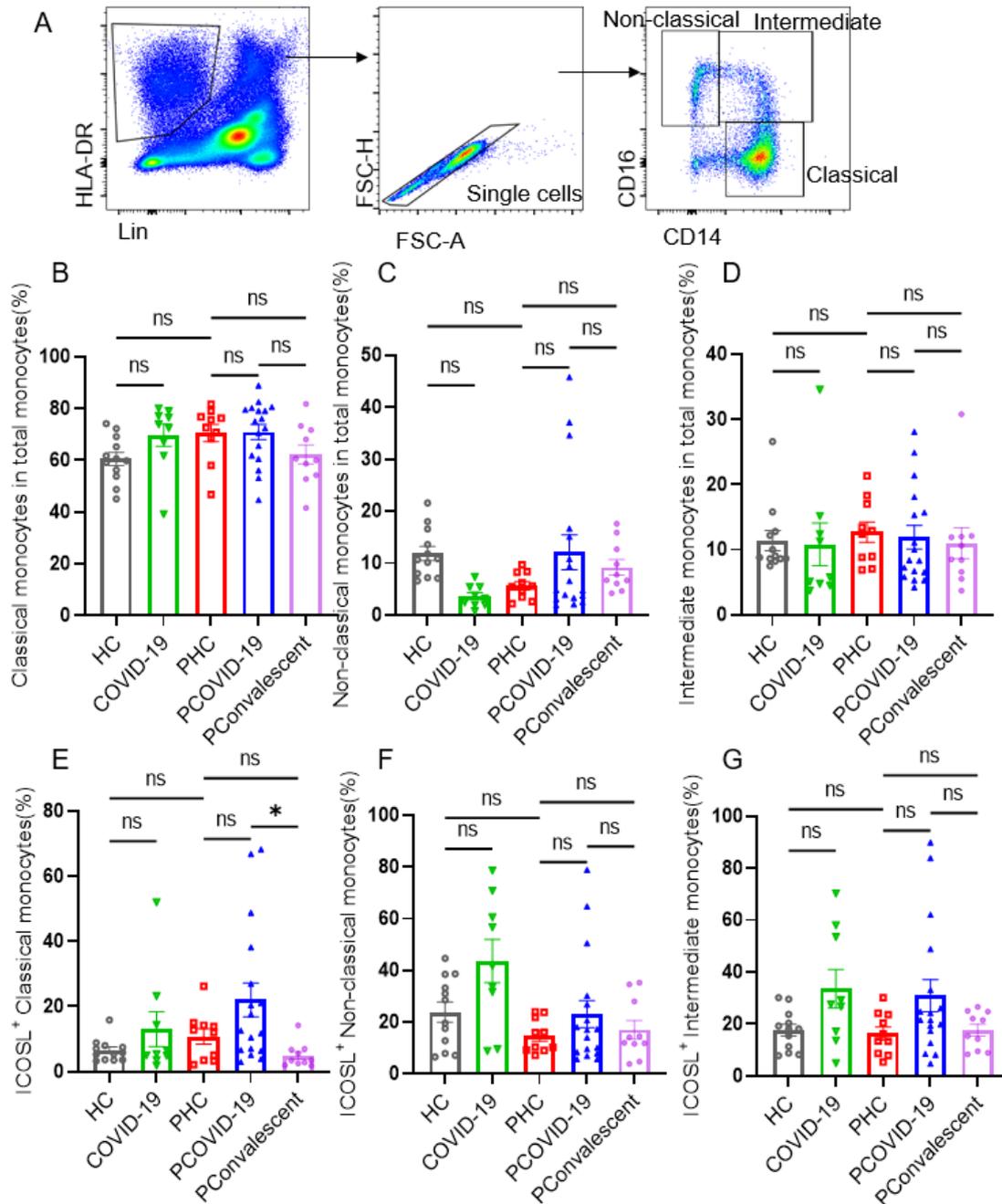
**Supplementary Figure 3.** ICOS expression in NK cells, CD4<sup>+</sup> T and CD8<sup>+</sup> T cells among the HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (A-D) The expression of ICOS on (A) CD56<sup>bri</sup> NK cells, (B) CD56<sup>dim</sup> NK cells, (C) CD4<sup>+</sup> T and (D) CD8<sup>+</sup> T cells in HC, COVID-19, PHC, PCOVID-19 and PConvalescent group. Results are shown as mean ± SEM. One-way ANOVA was conducted. \*  $P < 0.05$ ; \*\*\* $P < 0.001$ ; ns, not significant.



**Supplementary Figure 4.** The level of cytokine secretion and proliferation ability of NK cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (A-C) The expression of (A) CD107a (B) IFN- $\gamma$  (C) Ki67 on CD56<sup>br</sup> NK cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (D-F) The expression of (D) CD107a (E) IFN- $\gamma$  (F) Ki67 on CD56<sup>dim</sup> NK cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. Results are shown as mean  $\pm$  SEM. One-way ANOVA was used to determine statistical significance. \* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ ; \*\*\*\* $P < 0.0001$ ; ns, not significant.



**Supplementary Figure 5.** The level of cytokine secretion and proliferation ability of T cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (A-C) The expression of (A) CD107a (B) IFN- $\gamma$  (C) Ki67 on CD4<sup>+</sup> T cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (D-F) The expression of (D) CD107a (E) IFN- $\gamma$  (F) Ki67 on CD8<sup>+</sup> T cells in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. Results are shown as mean  $\pm$  SEM. One-way ANOVA was used to determine statistical significance. \*\* $P < 0.01$ ; \*\*\* $P < 0.001$  \*\*\*\* $P < 0.0001$ ; ns, not significant.



**Supplementary Figure 6.** Expression of ICOSL among the HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (A) Gating strategy of monocytes, starting with Lin<sup>-</sup>(CD3, CD19, CD20, CD56, CD66b) HLA-DR<sup>+</sup>, and then divided it into three groups as CD14<sup>+</sup>CD16<sup>-</sup> (classical), CD14<sup>+</sup>CD16<sup>+</sup> (intermediate) and CD14<sup>-</sup>CD16<sup>+</sup> (non-classical) monocytes. (B-D) The proportion of (A) CD14<sup>+</sup>CD16<sup>-</sup> classical monocytes, (C) CD14<sup>-</sup>CD16<sup>+</sup> non-classical monocytes and (D) CD14<sup>+</sup>CD16<sup>+</sup> intermediate in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. (E-G) The expression of ICOSL in (E) CD14<sup>+</sup>CD16<sup>-</sup> classical monocytes, (F) CD14<sup>-</sup>CD16<sup>+</sup> non-classical monocytes and (G) CD14<sup>+</sup>CD16<sup>+</sup> intermediate in HC group, COVID-19 group, PHC group, PCOVID-19 group and PConvalescent group. Results are shown as mean ± SEM. One-way ANOVA was used to determine statistical significance. \**P* < 0.05; ns, not significant.