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Supplementary Information

Additional file 1. Fig. S1

: Antigen responses of $AlloHSC-iNKT$ cells; Related to Fig. 1. $AlloHSC-iNKT$ cells generated from ATO and Feeder-free systems were cultured for 2 weeks, in the presence or absence of αGC (denoted as αGC or Vehicle, respectively). (a and c) Cell growth curve ($n = 3$). (b and d) ELISA analyses of cytokine (IFN- γ , TNF- α , IL-2, IL-4 and IL-17) production at day 7 post αGC stimulation ($n = 3$).

Additional file 2. Fig. S2

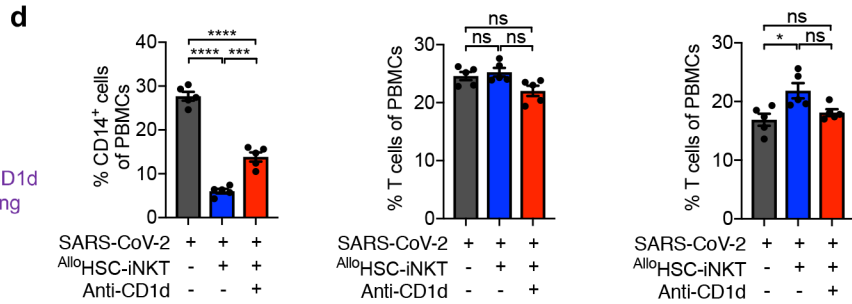
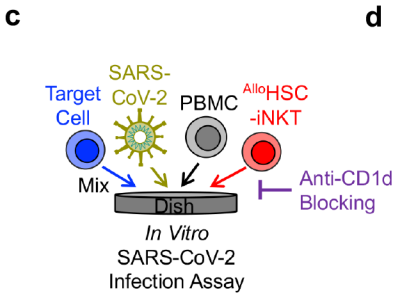
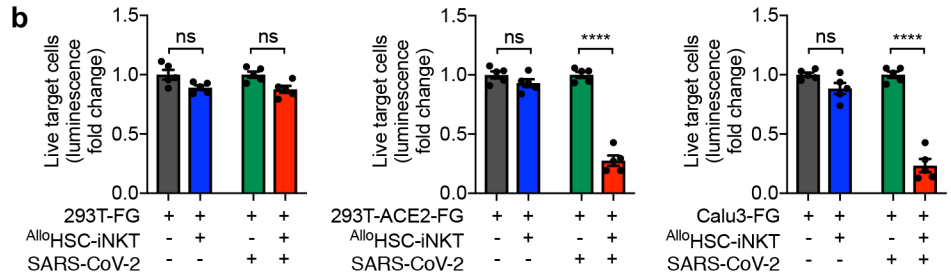
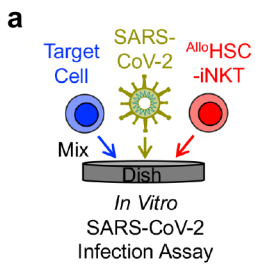
: Reduction of SARS-CoV-2 Virus Infection Load and Virus Infection-Induced Hyperinflammation by Feeder-Free Culture-Generated $AlloHSC-iNKT$ Cells; Related to Fig. 2 and 3. (a-b) Study directly targeting of SARS-CoV-2 infected cells by Feeder-free culture-generated $AlloHSC-iNKT$ cells. (a) Experimental design. (b) Target cell killing data of $AlloHSC-iNKT$ cells at 24-h post co-culturing with infected cells ($n = 5$). (c-d) Study targeting virus-infection promoted inflammatory monocytes by Feeder-free culture-generated $AlloHSC-iNKT$ cells. (c) Experimental design. (d) Flow cytometry analysis of remaining CD14⁺ monocytes, T and B cells in PBMCs after co-culturing with $AlloHSC-iNKT$ cells. Representative of 3 experiments. Data are presented as the mean \pm SEM. ns, not significant, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, **** $P < 0.0001$, by Student's t test (b) and 1-way ANOVA (d).

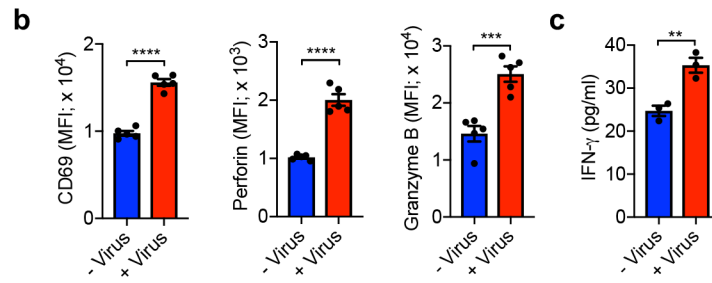
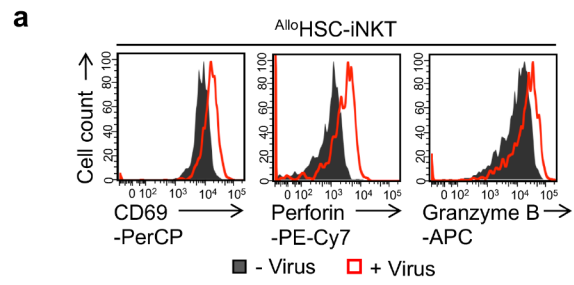
Additional file 3. Fig. S3

: $AlloHSC-iNKT$ Cells are Activated by SARS-CoV-2 Infected Target Cells; Related to Fig. 2. (a) FACS detection of CD69, Perforin, and Granzyme B of $AlloHSC-iNKT$ cells at 24-h post co-culturing with SARS-CoV-2 infected Calu3-FG cells. (b) Quantification of (a) ($n = 5$). (c) ELISA analysis of IFN- γ production ($n = 3$). Representative of 3 experiments. Data are presented as the mean \pm SEM. ns, not significant, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, **** $P < 0.0001$, by Student's t test.

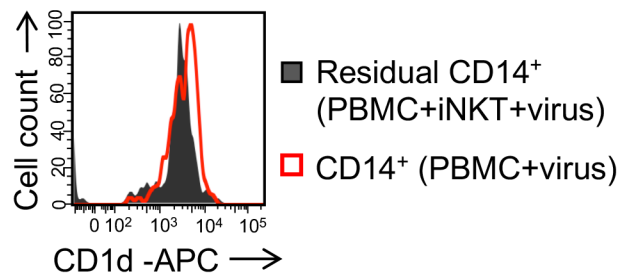
Additional file 4. Fig. S4

: Phenotype changes of CD14⁺ monocytes after co-culturing with $AlloHSC-iNKT$ cells under SARS-CoV-2 infection; Related to Fig. 3. 293T-ACE2-FG cells were infected by SARS-CoV-2 virus. After 1 day, PBMCs were seeded in the culture with or without the addition of $AlloHSC-iNKT$ cells and cultured for 24 h. Flow cytometry was used to detect cell populations. (a-b) FACS analyses of CD1d expression on CD14⁺ monocytes ($n = 5$). (c-d) FACS analyses of CD86 expression on CD14⁺ monocytes ($n = 5$). Data are presented as the mean \pm SEM. ** $P < 0.01$, by Student's t test.

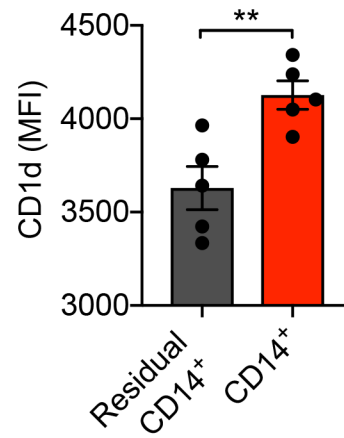




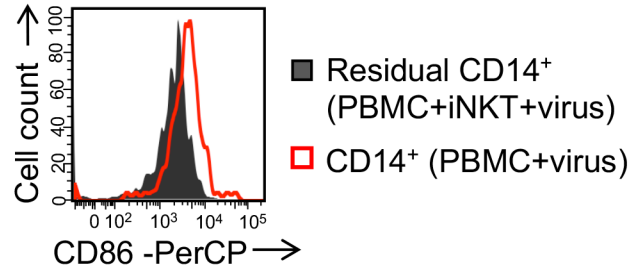
a CD14⁺ monocytes



b



c CD14⁺ monocytes



d

