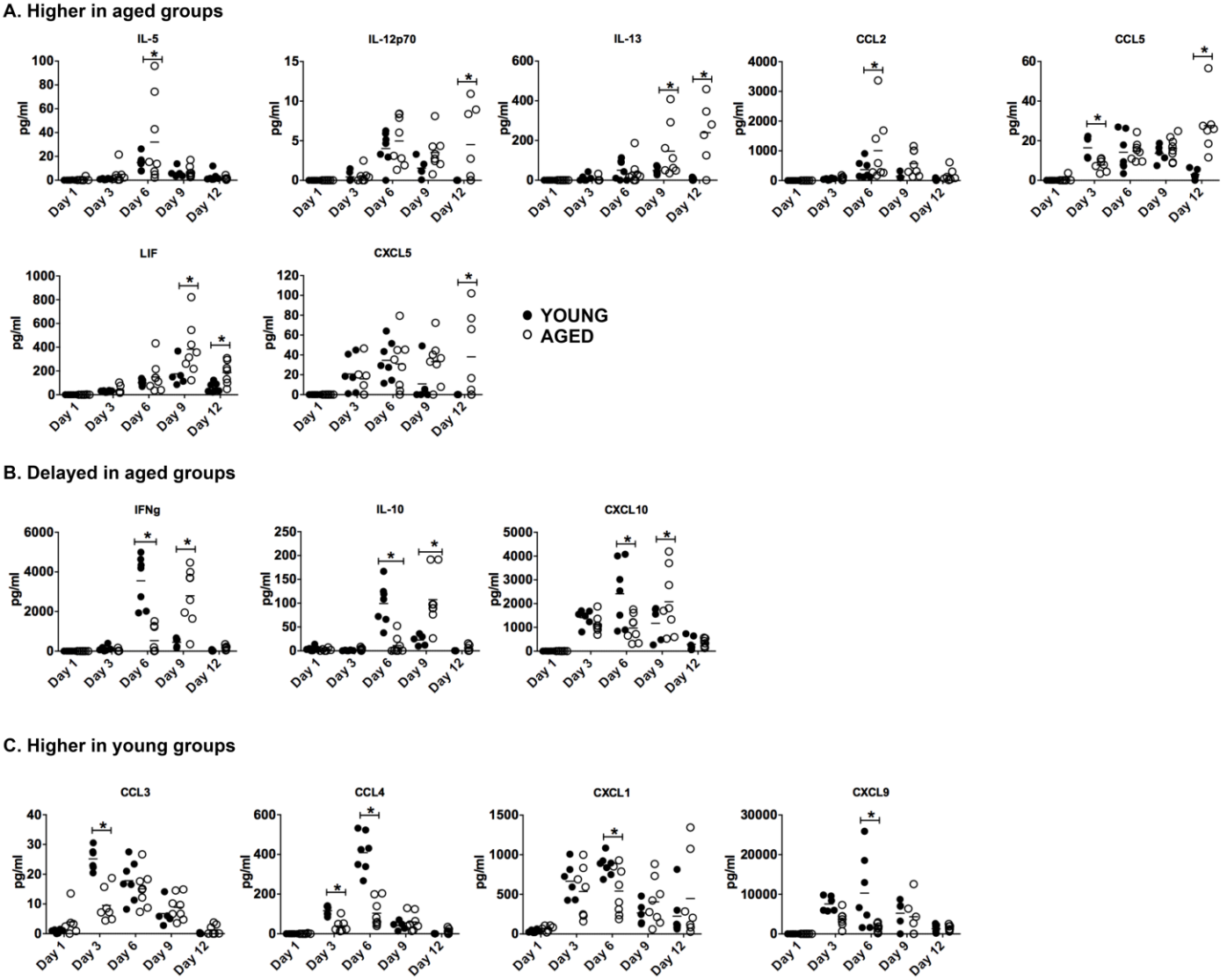
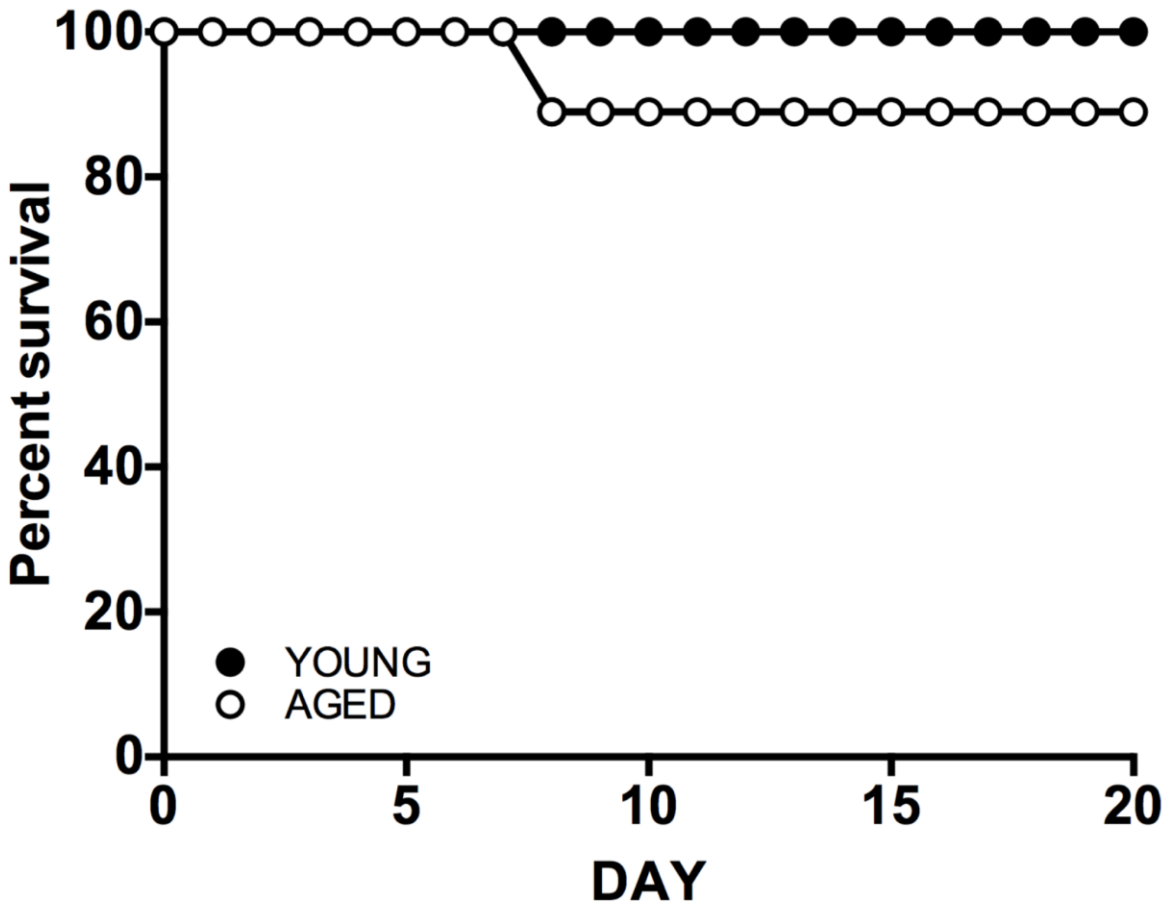
# Vaccine efficacy and T helper cell differentiation change with aging

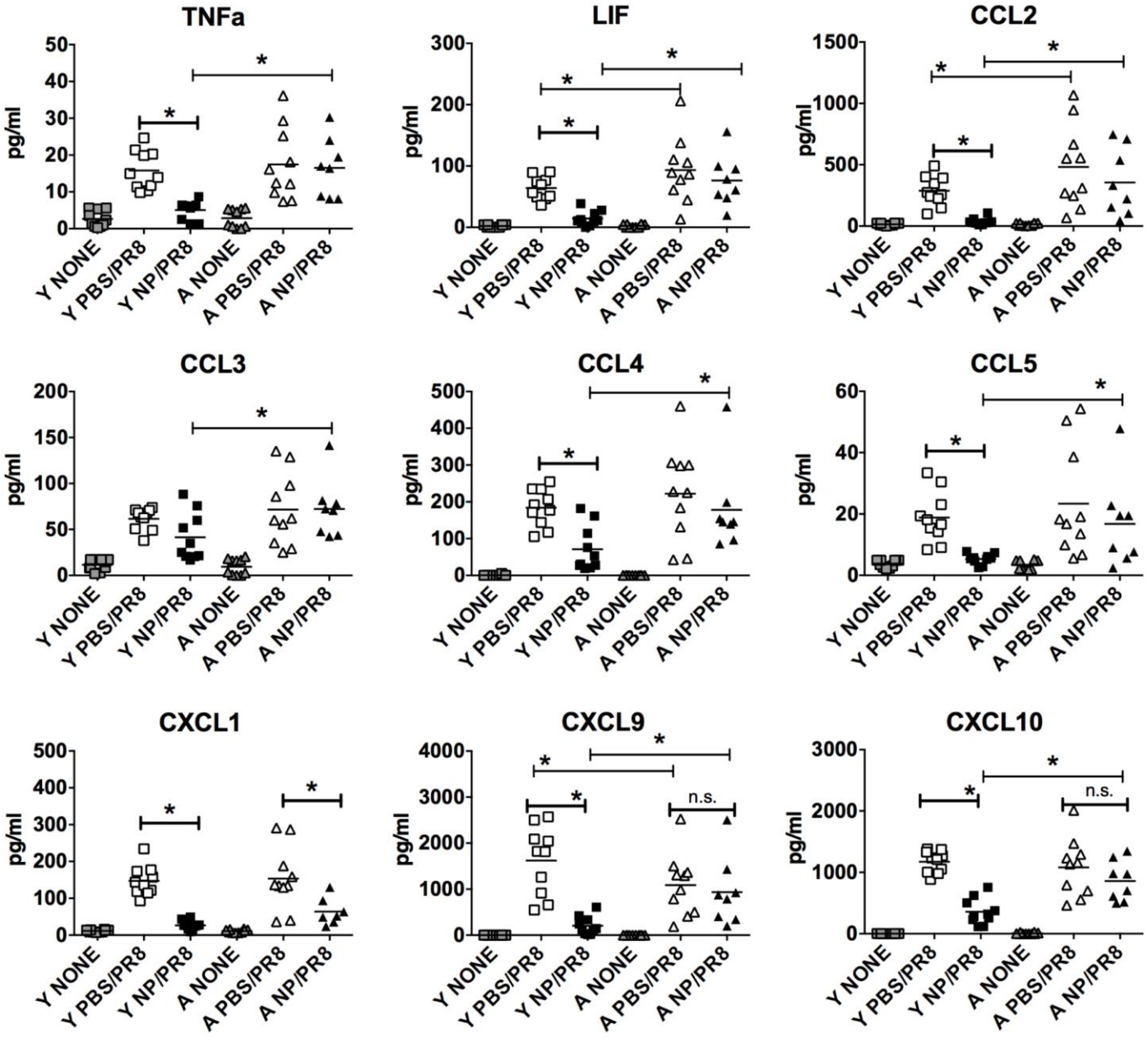
**Supplementray Material**



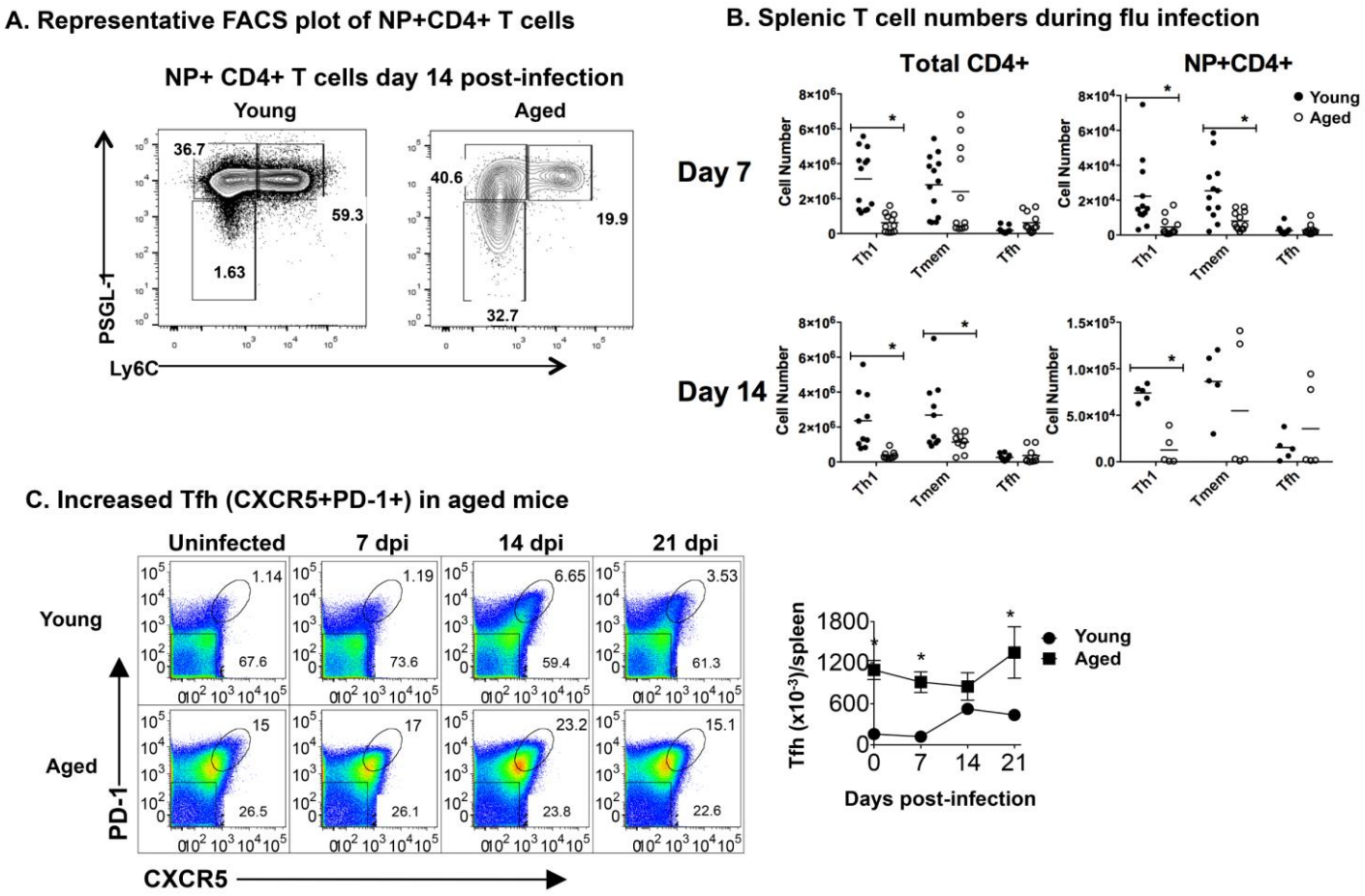

**SUPPLEMENTARY FIG 1.** Additional cytokines and chemokines measured by multiplex assay of samples in Fig 1C.




**SUPPLEMENTARY FIG 2.** Survival of young and aged mice given 250 CFU of *Streptococcus pneumoniae.*




**SUPPLEMENTARY FIG 3.** Additional cytokines and chemokines measured by multiplex assay of samples in Fig 3D.




**SUPPLEMENTARY FIG 4.** Additional information on CD4 T cells in Figure 5. (A) Representative FACS plot of splenic NP+CD4 T cells on day 14 of influenza infection. (B) Cell numbers of graphs presented in Figure 5C. (C) Kinetic analysis of Tfh (CXCR5+PD-1+) within the total CD4 T cell population in spleens of young and aged mice during influenza infection. Representative FACS dot plots and graphical representation of cell numbers are shown.