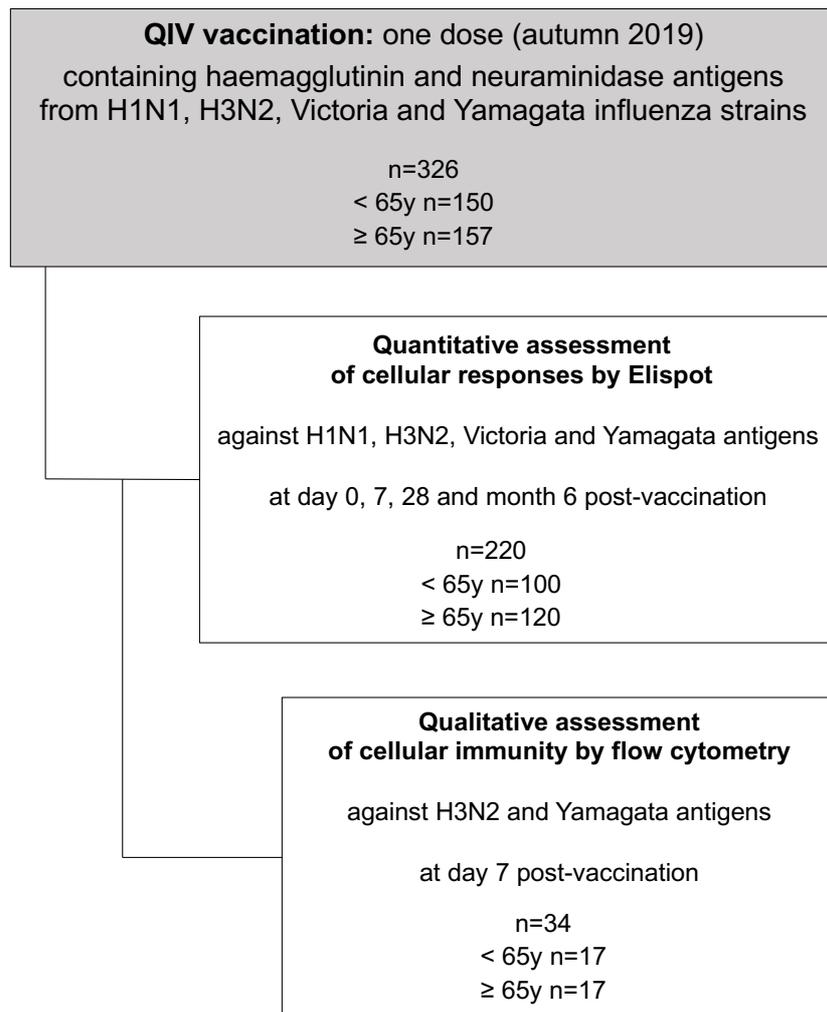


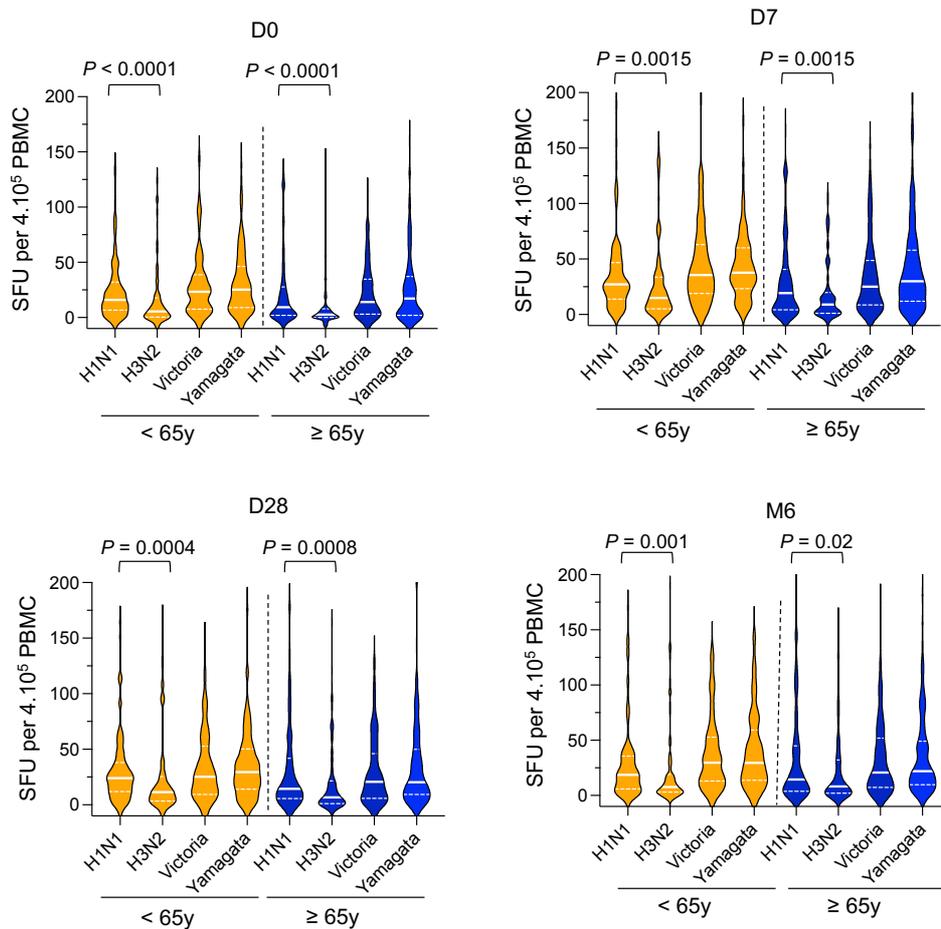
SUPPLEMENTAL MATERIALS

Influenza vaccine-specific T cell responses are impaired in older adults

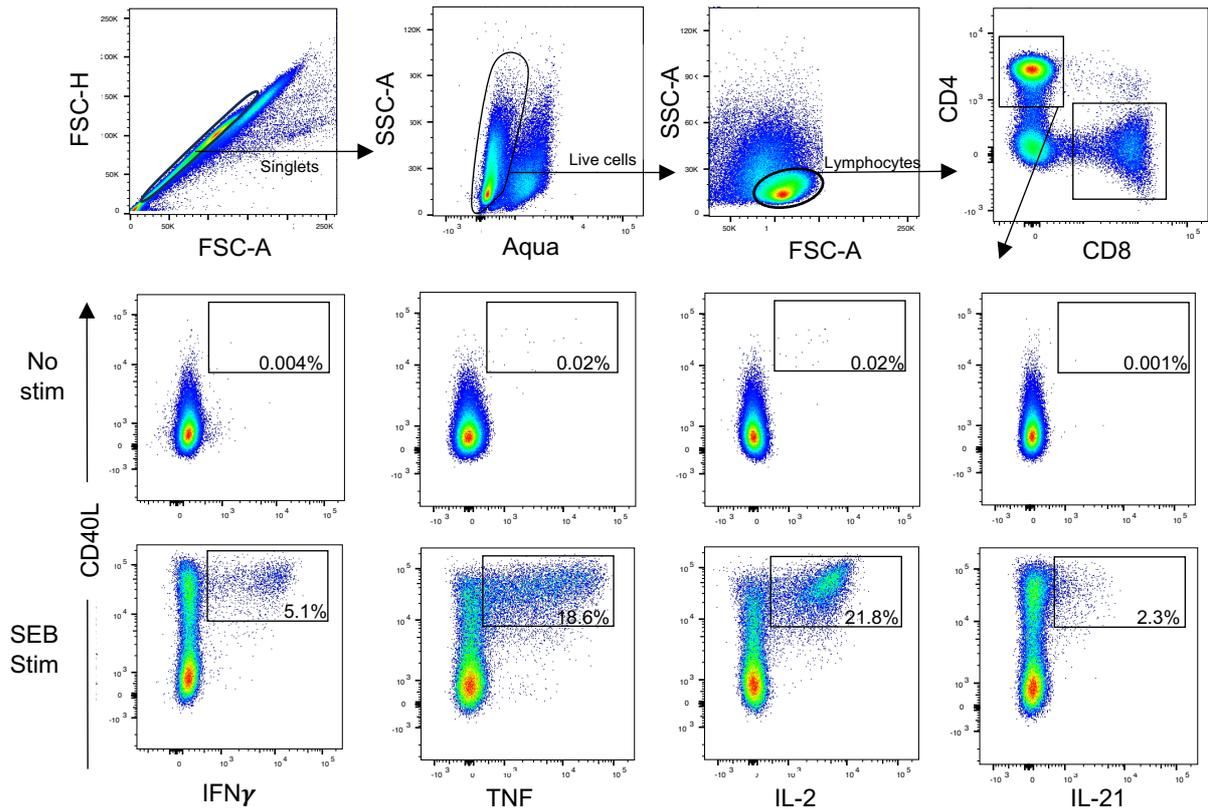
Pauline Saint-Charles et al.



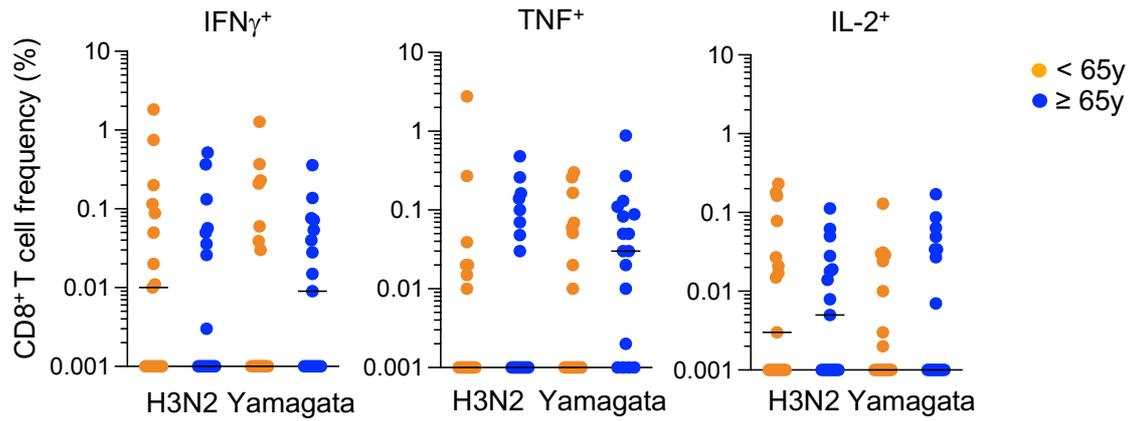
Supplemental Figure 1. Study flow diagram. Participants received one dose of the seasonal quadrivalent inactivated subunit influenza vaccine (QIV) containing haemagglutinin and neuraminidase antigens from the influenza A H1N1 and H3N2 strains, and influenza B Victoria and Yamagata strains. T cells responses to H1N1, H3N2, Victoria and Yamagata antigens were measured at day 0, 7, and 28 and month 6 post-vaccination using IFN- γ Elispot. Qualitative attributes of T cells (polyfunctional profiles of T cell responses and cellular senescence markers) were assessed at day 7 post-vaccination.



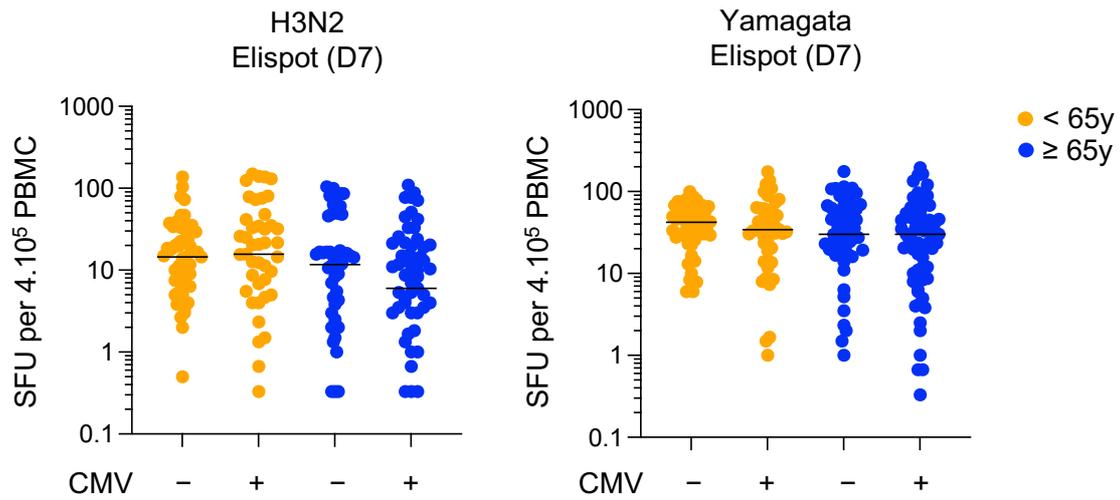
Supplemental Figure 2. Influenza-specific T cell responses in younger and older adults upon immunization with QIV. Frequencies of H3N2, H1N1, Victoria or Yamagata influenza-specific T cells measured using IFN- γ Elispot on day 0, day 7 and month 6 post-vaccination among vaccinees below (n=100) or above (n=120) 65 years of age. Violon plots are shown with mean and lower and higher quartile values. Bars indicate median values. Significance was assessed using the Mann–Whitney U test.



Supplemental Figure 3. Gating strategy for flow cytometry intracellular staining cytokine assay and frequencies of CD8⁺ T cells specific for H3N2 or Yamagata influenza strains in younger and older vaccinees. Representative flow cytometry plots showing the identification of single, viable CD3⁺ events segregated by lineage (CD4 versus CD8) and differentiation status (CD27 versus CD45RA). Numbers indicate percentages in the drawn gates. Right: effector/memory cells defined after exclusion of naive events expressing CD27 and CD45RA.



Supplemental Figure 4. Frequencies of influenza-specific CD8⁺ T cells in vaccinees. Frequencies of H3N2 or Yamagata influenza-specific CD8⁺ (IFN- γ ⁺, TNF⁺ or IL-2⁺) T cells were measured on day 7 post-vaccination among vaccinees below (n=17) or above (n=17) 65 years of age. Each dot represents one donor. Bars indicate median values. Significance was assessed using the Mann-Whitney U test.



Supplemental Figure 5. Frequencies of influenza-specific T cells according to CMV seropositivity. Frequencies of H3N2 or Yamagata influenza-specific T cells (IFN- γ Elispot data) on day 7 post-vaccination among younger (< 65y, n=100) and older (\geq 65y, n=120) vaccinees according to CMV seropositivity. Each dot represents one donor. Bars indicate median values. Significance was assessed using the Mann-Whitney U test.