

Figure S1. Per-donor cytokine differences between CD3/CD28 and MAGE-A3. For each donor, Δ was computed as $\log_{10}(\text{pg/mL})_{\{\text{CD3/CD28}\}} - \log_{10}(\text{pg/mL})_{\{\text{MAGE-A3}\}}$ (positive values indicate higher secretion with CD3/CD28 than MAGE-A3). Points show donors ($n = 10$); bars show mean \pm 95% CI (or median \pm IQR where non-normal). One-sample t test (or Wilcoxon signed-rank if non-normal) vs. 0, two-sided; **** $P < 0.0001$. Mean Δ and 95% CI correspond to ~17-fold (GM-CSF), 58-fold (IFN- γ), 3.8-fold (IL-2), and 1.7-fold (TNF- α) higher levels with CD3/CD28 than MAGE-A3.

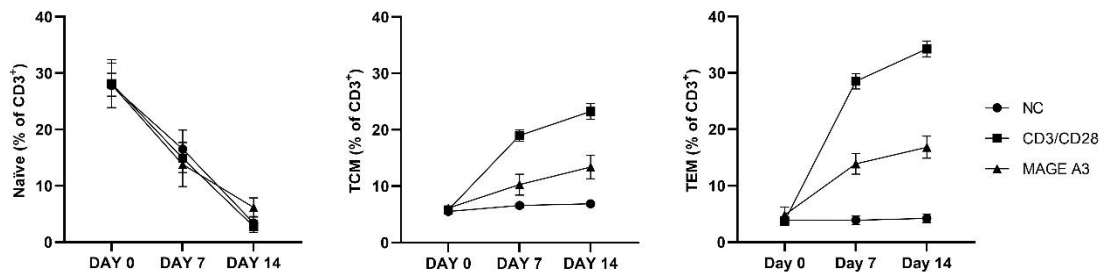


Figure S2. Kinetics of T-cell memory subsets (mean \pm SEM, matched donors). Naïve, TCM, and TEM are shown as % of CD3 $^{+}$ at Day 0, 7, and 14 under NC (circles), CD3/CD28 (squares), or MAGE-A3 (triangles). Points are group means; error bars are SEM; $n = 6$ matched donors (same donors as Figure 3B). These descriptive trajectories complement Figure 3B and align with the two-way RM-ANOVA and Šidák tests summarized in Table S3.