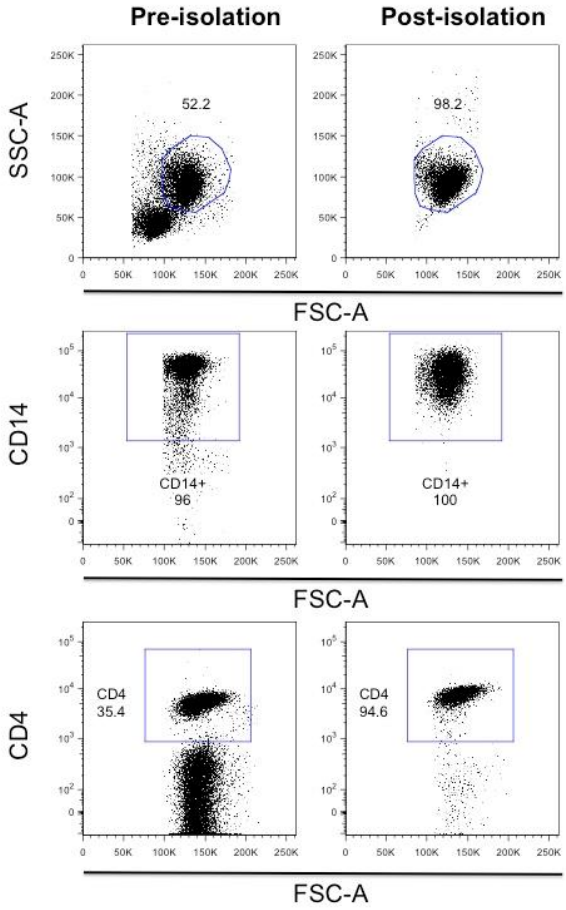

Figure S1: Isolation of $CD14^+$monocytes and $CD4^+$T cells. Monocytes were isolated using a positive selection protocol for $CD14^+$ cells. $CD4^+$T cells were isolated from the $CD14^-$ fraction using a negative selection protocol for $CD4^+$ cells. Data shown are representative plots of the purity of $CD14^+$ monocytes and $CD14^-CD4^+$ T cells before and after isolation.

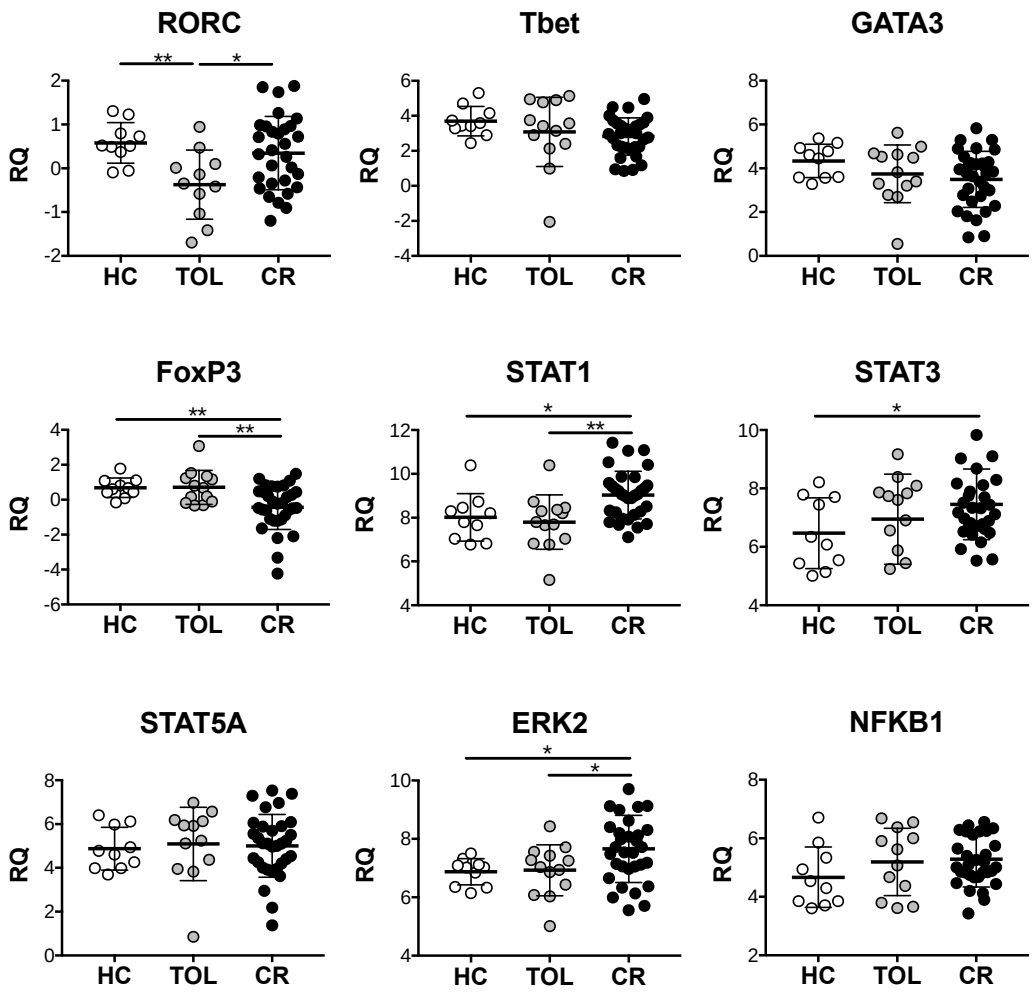

Figure S2: Tolerant kidney transplant recipients express lower levels of RORC than healthy controls and recipients with chronic rejection. Gene expression of Tbet, GATA3, RORC, FOXP3, STAT1, STAT3, STAT5A, ERK2 and NFKB1 was measured in peripheral blood samples from tolerant recipients (TOL), healthy volunteers (HC) and patients with chronic rejection (CR). Statistical significance was determined using the Kruskal-Wallis test with Dunn's multiple comparisons test where **=P<0.01 and *=P<0.05.

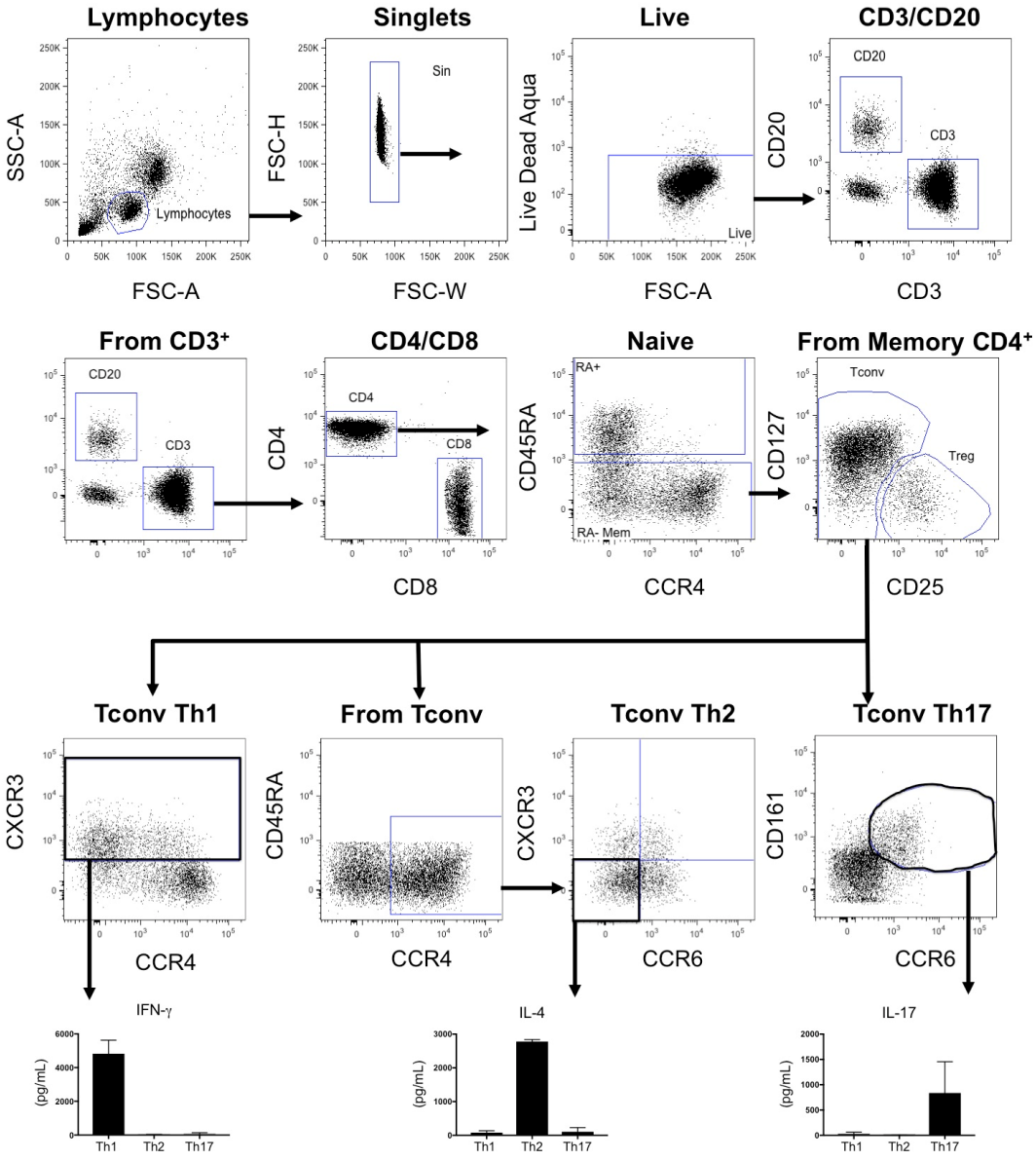

Figure S3: Gating strategy to identify T cell subsets. Lymphocytes were identified by forward and size scatter after which doublets and dead cells were excluded from the analysis. T cells and B cells were identified per their expression of CD3 and CD20, respectively. $CD4^+$ and $CD8^+$ T cells were then subgated from the $CD3^+$ population. Naïve and memory T cells were distinguished per their expression of CD45RA from the total $CD4^+$ T cells. In the $CD45RA^-$ memory population, Tregs were identified as $CD4^+CD25^{hi}CD127^{lo}$ with all other $CD4^+CD45RA^-$ cells being classified non Tregs or conventional effector memory T cells. From the $CD4^+CD45RA^-$ conventional memory $CD4^+$T cells, Th1 cells were identified as $CXCR3^+$, Th2 cells as

$CCR4^{+}CCR6^{-}CXCR3^{-}$ and Th17 cells as $CD161^{+}$ $CCR6^{+}$. The T helper phenotype of all analysed subsets was confirmed by measuring cytokine production after TCR activation.

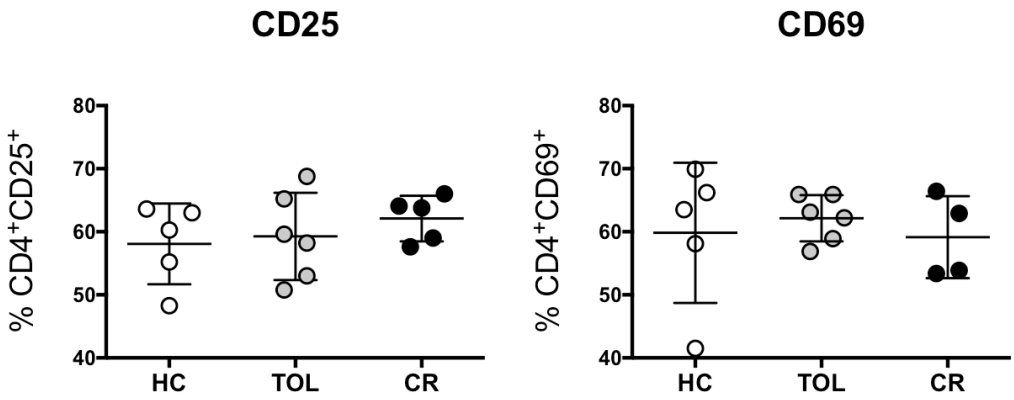

Figure S4: CD25 and CD69 expression in patient-derived and healthy control $CD4^+$T cells following activation. $CD4^+$T cells from tolerant recipients (TOL), recipients with chronic rejection (CR) and healthy volunteers (HC) were activated with anti-CD3/28 beads (1:2 bead:cell ratio) for 24 hours after which the expression of CD25 and CD69 was measured by flow cytometry.

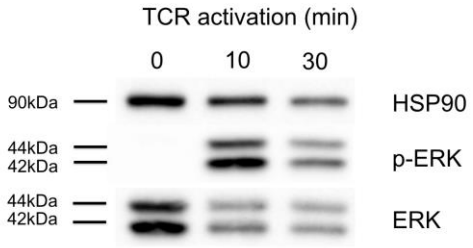

Figure S5: Standardization of TCR signalling in $CD4^{+}$T cells. ERK phosphorylation (p-ERK) was measured in healthy donor-derived $CD4^{+}$T cells ($2x10^5$ cells per condition) which were activated with 5μg/mL plate bound anti-CD3/28 for 0, 10 and 30 minutes, via western blot. HSP90 was used as a loading control. Only time point 10 minutes was performed for Figure 3B due to low number of cells obtained from patient samples.

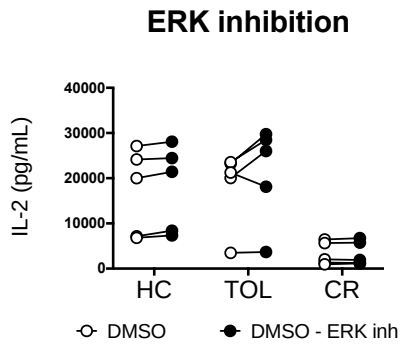

Figure S6: IL-2 secretion by $CD4^+$T cells in the presence of an ERK inhibitor. IL-2 produced by $CD4^+$T cells activated with anti-CD3/28 (1:5 bead:cell ratio) in the presence of a Th17 polarization cocktail and 0.1μg/mL of an ERK inhibitor or carrier DMSO was measured. Statistical significance was determined using RM 2-Way ANOVA, but not differences reached statistical significance (P<0.05).