**Supplemental Fig. 1:** Malaria-specific cytokine responses are impaired in HIV(+) donors, and do not recover with cART. Cytokine levels were measured in PBMC culture supernatants at various time points for (a) IFNγ, (b) TNF, (c) IL-2, and (d) IL-10. Levels measured in wells containing uninfected RBC were subtracted from levels measured in wells with PEs to determine malaria-specific cytokine production (grey box represents median). HIV(+) donors (black circles) were matched to their HIV(-) controls (white circles). All statistical comparison by Wilcoxon matched pair test. * p≤0.05, ** p≤0.01, and *** p≤0.001, n = 24 pairs.
Supplemental Fig. 2: NK cells are lower in HIV(+) donors, but recover with cART.

NK cell subsets were identified in freshly isolated PBMCs from HIV(+) donors (black circles) and matched HIV(-) controls (white circles) by flow cytometry. Each pair of HIV(+) and HIV(-) donors are connected by a line. Analysis was performed prior to cART initiation (M0) and 6 months post-cART (M6). Grey bars represent median values. (a) NK cell (defined as percentage CD14–CD56+CD3– of total cells); (b) CD56lo NK cell (defined as percentage of CD14–CD56loCD3– of total cells); (c) CD56hi NK cell (defined as percentage of CD14–CD56hiCD3– of total cells) percentages for HIV(+) and HIV(-) donors pre- and post-cART. (d) cART-induced changes in NK cell subsets from HIV(+) donors. All statistical comparisons by Wilcoxon matched pair test, n = 16. * p≤0.05, ** p≤0.01.
Supplemental Fig. 3: NKT subset differences between HIV(+) and HIV(-) donors persist despite cART.

NKT cell subsets were identified in freshly isolated PBMCs from HIV(+) donors (black circles) and matched HIV(-) controls (white circles) by flow cytometry. Each pair of HIV(+) and HIV(-) donors are connected by a line. Analysis was performed prior to cART initiation (M0) and 6 months post-cART (M6). Grey bars represent median values. (a) NKT cells (defined as the percentage CD14-CD3+CD56+ of total cells); (b) CD8+ NKT cell (defined as the percentage CD8+ of NKT cells); and (c) CD4-CD8- NKT cells (defined as percentage CD4-CD8- of NKT cells) percentages for HIV(+) and HIV(-) donors pre- and post-cART. (d) cART-induced changes in NKT cells from HIV(+) donors. All statistical comparisons by Wilcoxon matched pair test, n = 16. * p ≤ 0.05, ** p ≤ 0.01.
Supplemental Fig. 4: γδ T cells subset differences between HIV(+) and HIV(-) donors persist despite cART.

γδ cell T-cell subsets were identified in freshly isolated PBMCs from HIV(+) donors (black circles) and matched HIV(-) controls (white circles) by flow cytometry. Each pair of HIV(+) and HIV(-) donors are connected by a line. Analysis was performed prior to cART initiation (M0) and 6 months post-cART (M6). Grey bars represent median values. (a) γδ cell T-cells (defined as the percentage CD14-CD56-CD3+ of CD56-CD3+ cells); and (b) CD4+γδ cell T-cells (defined as the percentage CD4+ of γδ cell T-cell) for HIV(+) and HIV(-) donors pre- and post-cART. (c) cART-induced changes in γδ cell T-cells from HIV(+) donors. All statistical comparisons by Wilcoxon matched pair test, n = 15/16. ** p≤0.01.
Supplemental Fig. 5: Innate immune cell malaria-specific cytokine production is impaired by HIV infection, despite cART.

PBMCs isolated from HIV(+) donors (black circles) and HIV(-) controls (white circles) were cultured in the presence of *P. falciparum* PEs for 72 hours prior to intracellular cytokine staining. Analysis was performed prior to cART initiation (M0) and 6 months post-cART (M6). Grey bars represent median values. *P. falciparum* PE-induced IFN$\gamma^+$ (i) and TNF$^+$ (ii) cells within the: (a) NK (CD14$^-$CD3$^-$CD56$^+$) subset (n = 11 pairs); (b) NKT (CD14$^-$CD56$^+$CD3$^+$) subset (n = 11 pairs); (c) $\gamma\delta$ T-cell (CD14$^-$CD56$^-$CD3$^\gamma\delta^+$) subset (n = 11 pairs); and (d) monocyte (CD3$^-$CD14$^+$) subset (n = 11 pairs) are shown for HIV(+) donors compared to HIV(-) controls pre- and post-cART. Levels of IFN$\gamma^+$ and TNF$^+$ cells measured in wells containing uninfected RBC were subtracted from levels measured in wells with PEs to determine malaria-specific cytokine producing cells. (e) PBMC isolated from HIV(+) donors and HIV(-) controls were cultured in the presence of PMA and ionomycin for 72 hours prior to intracellular cytokine staining. Levels measured in wells containing media alone were subtracted from levels measured in wells with PMA and ionomycin, to determine the cells responding to stimulus. The percentage of IFN$\gamma^+$ (i) and TNF$^+$ (ii) lymphocytes are shown. All statistical comparisons by Wilcoxon matched pair test. * p≤0.05, ** p≤0.01, and *** p≤0.001.
Supplemental Fig. 6: IL-18R levels are lower on resting NK, NKT, γδ T-cells, and monocytes from HIV(+) donors, and are not restored with cART.

The percentage IL-18R⁺ (i) and IL-18R mean fluorescence index (MFI) (ii) for (a) NK (CD14⁻CD3⁻CD56⁺); (b) NKT (CD14⁺CD56⁺CD3⁺); (c) γδ T-cells (CD14⁺CD56⁺CD3⁺γδ); and (d) monocytes (CD14⁺CD3⁻) are shown for freshly isolated PBMCs from HIV(+) donors (black circle) and HIV(-) controls (white circles) analysed by flow cytometry, prior to (M0) and post-cART (M6). Pairs of HIV(+) and HIV(-) donors are connected by lines. MFI was calculated as the mean fluorescence intensity ratio between the IL-18R stained sample and its FMO control. Median levels are in grey (n = 16 pairs). All statistical comparisons by Wilcoxon matched pair test. * p ≤ 0.05, ** p ≤ 0.01, and *** p ≤ 0.001.
Supplemental Fig. 7: IL-18R levels are lower on PE-stimulated NK, NKT, and γδ T-cells from HIV(+) donors, and are not restored with cART.

The percentage IL-18R⁺ (i) and IL-18R mean fluorescence index (MFI) (ii) for (a) NK (CD14⁻CD3⁻CD56⁺); (b) NKT (CD14⁻CD56⁺CD3⁺); and (c) γδ T-cells (CD14⁻CD56⁻CD3⁺γδ⁺) are shown for PE-stimulated PBMCs from HIV(+) donors (black circle) and HIV(-) controls (white circles) analysed by flow cytometry, prior to (M0) and post-cART (M6). Pairs of HIV(+) and HIV(-) donors are connected by lines. MFI was calculated as the mean fluorescence intensity ratio between the IL-18R stained sample and its FMO control. Levels (median levels are in grey, n = 14/15 pairs) measured in wells containing uninfected RBC were subtracted from levels measured in wells with PEs to determine malaria-specific levels. All statistical comparisons by Wilcoxon matched pair test. * p≤0.05, ** p≤0.01, and *** p≤0.001.