

Fig. S1 Gating strategy of mucosal-associated invariant T (MAIT) cells. MAIT cells were gated on CD3⁺ CD161^{high} TCR V α 7.2⁺ cells. FSC-H forward scatter-height, FVS-A fixable viability stain-area, FSC-A forward scatter-area, TCR T-cell receptor, SSC-A side scatter-area

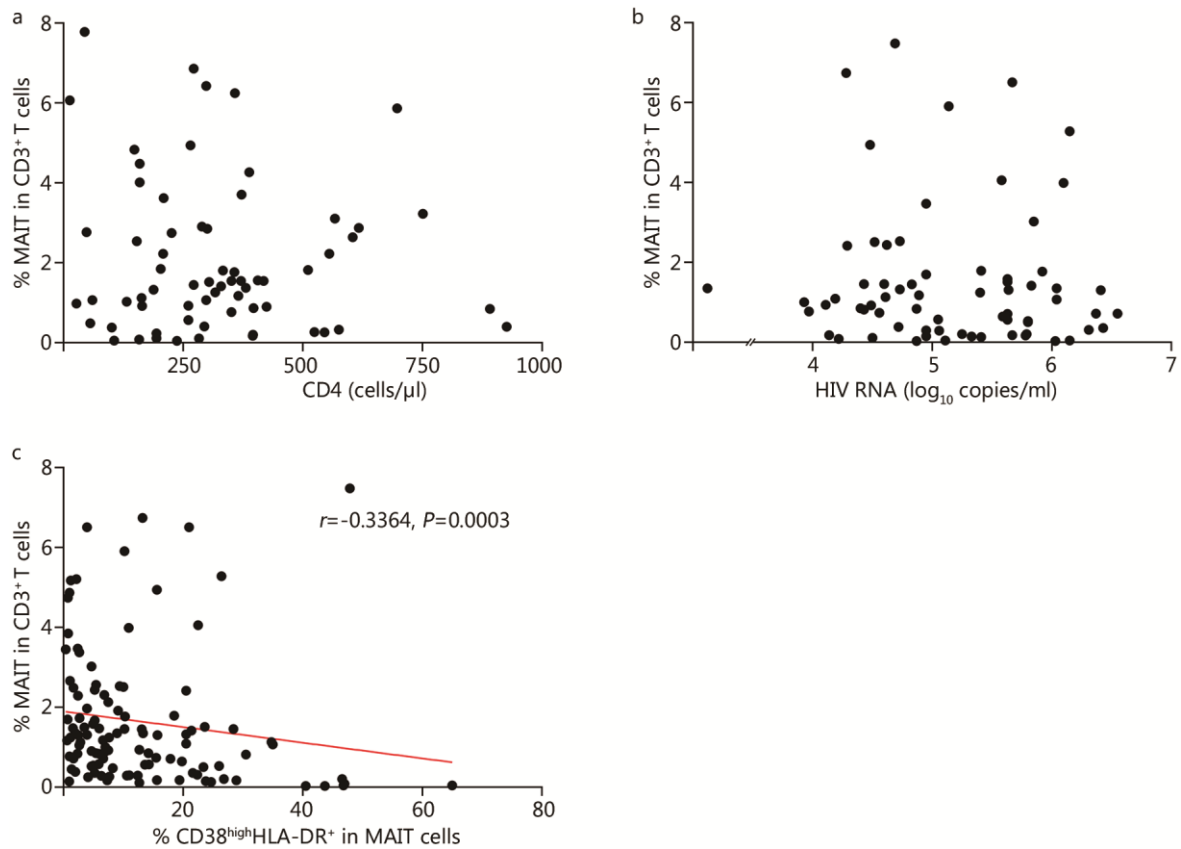


Fig. S2 Correlation analysis of mucosal-associated invariant T (MAIT) cell frequencies with CD4⁺ T-cell counts (a), plasma human immunodeficiency virus (HIV) viral load (b) and the frequencies of CD38^{high}HLA-DR⁺-expressing MAIT cells (c). Each symbol represents a single individual. Associations were evaluated by using Spearman rank correlation test. *P*-value and Spearman's Rho value are shown

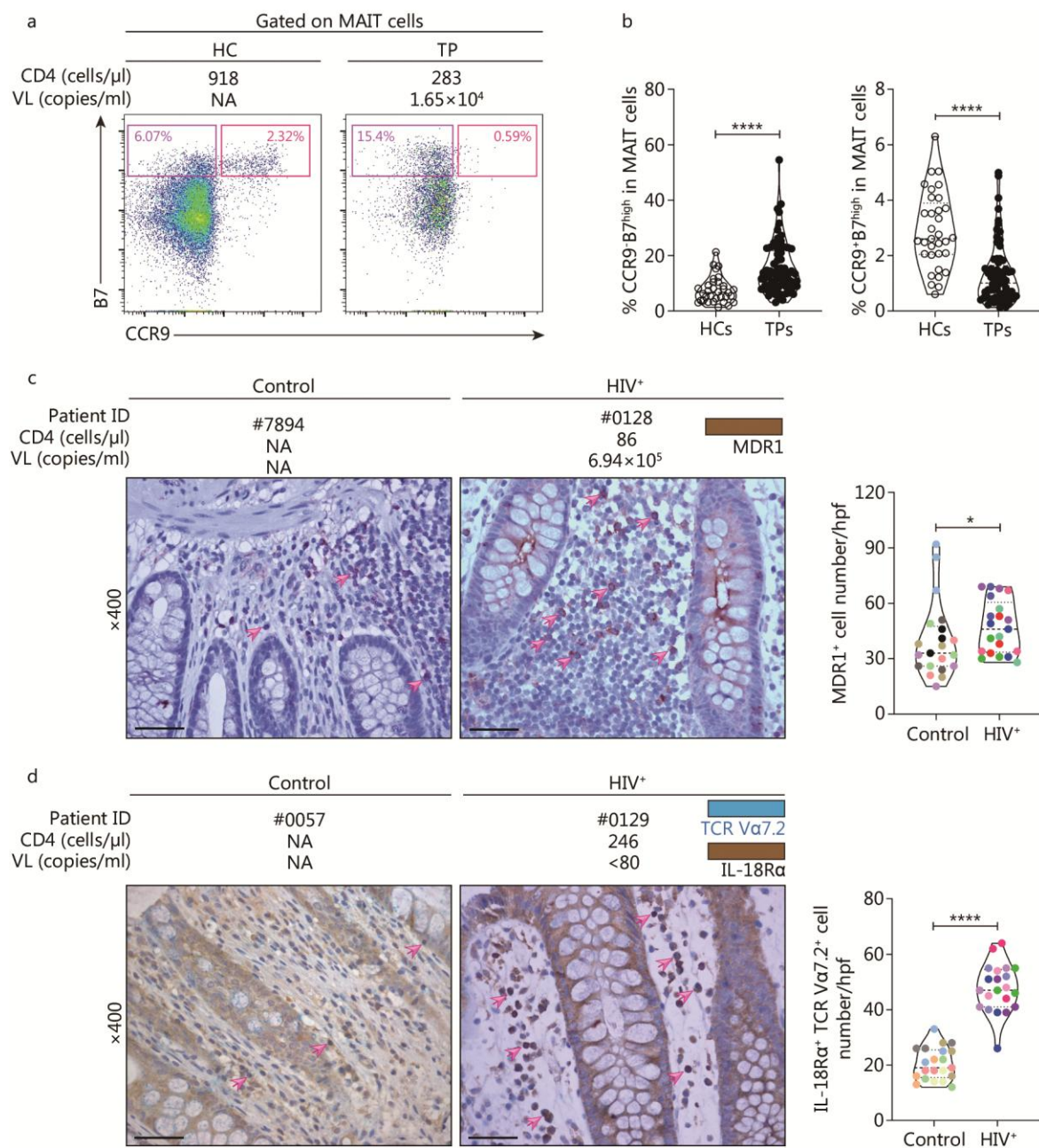


Fig. S4 Increased mucosal-associated invariant T (MAIT) cells in colorectal mucosa tissues from human immunodeficiency virus type 1 (HIV-1) infected patients. **a** Representative FACS plots from one HC and one TP displaying CCR9 and integrin $\beta 7$ expression. **b** Pooled data showing the frequencies of CCR9⁻integrin $\beta 7^{\text{high}}$ and CCR9⁺integrin $\beta 7^{\text{high}}$ MAIT cells from HCs (hollow circles, $n = 33$) and TPs (solid circles, total $n = 69$). **c** Representative immunohistochemistry images ($\times 400$) and quantification of MAIT cells in colorectal mucosa tissues from HIV-negative controls ($n = 7$) and HIV⁺ patients ($n = 7$) single-stained with anti-MDR1. Arrowheads highlight canonical MDR1 only positive cells. **d** Representative immunohistochemistry images ($\times 400$) and quantification of MAIT cells in colorectal mucosa tissues from HIV-negative ($n = 7$) and HIV⁺ patients ($n = 7$)

co-stained with anti-IL-18R α and anti-TCR V α 7.2. Arrowheads highlight canonical IL-18R α ⁺TCR V α 7.2⁺ double-positive cells. Each color in the pooled data (**c** and **d**) of immune single or double stains represents one single subject, and each dot represents single or double-positive cell numbers counted in a single high-power field (hpf, \times 400). Each symbol represents a single individual. Data are expressed as $M (Q_1, Q_3)$. * $P < 0.05$, **** $P < 0.0001$. Scale bar of hpf = 50 μ m. Mann-Whitney U test (**b-d**). HC healthy control, TP treatment-naïve patient, VL viral load, NA not available, CCR9 C-C motif chemokine receptor 9, HIV human immunodeficiency virus, IL-18 interleukin-18, TCR T-cell receptor