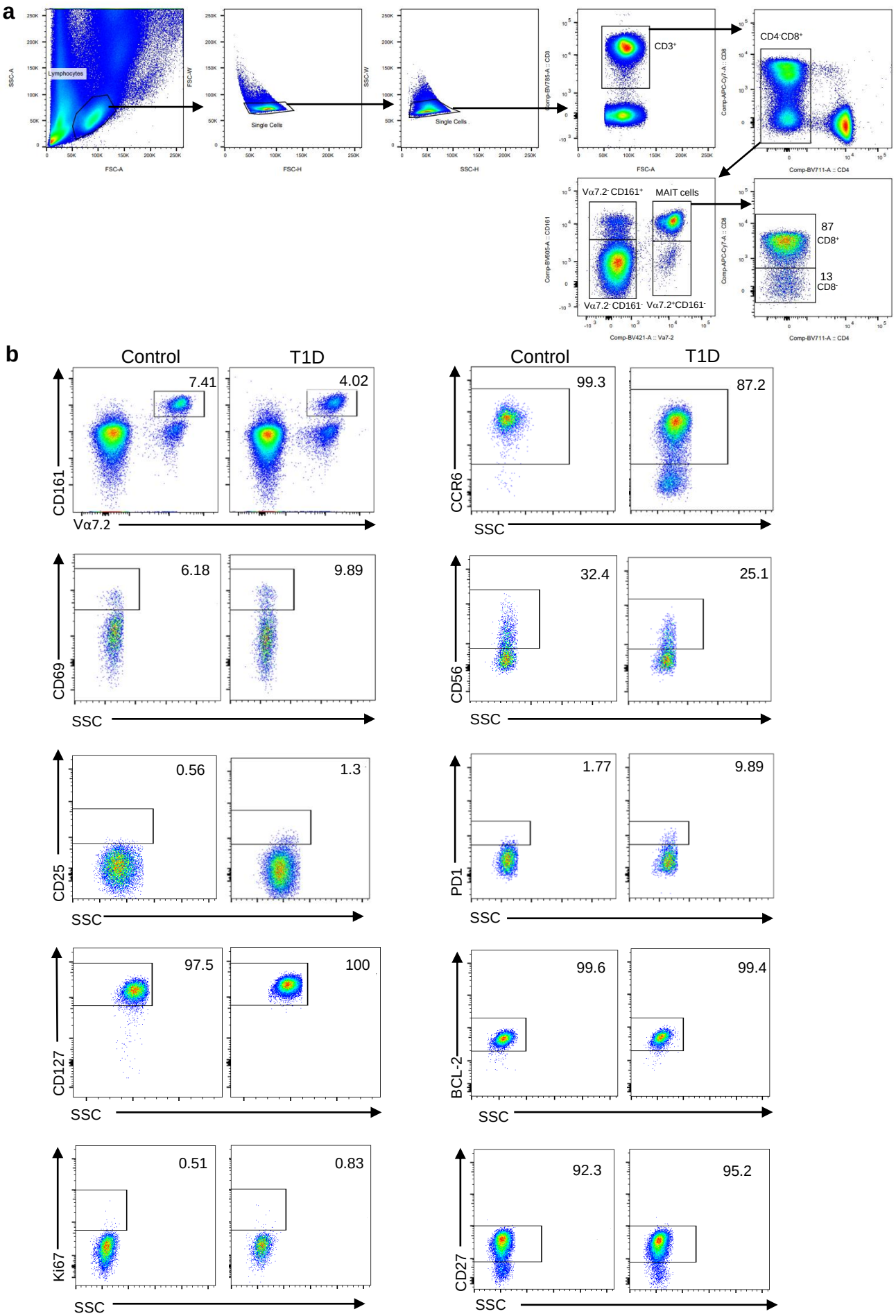
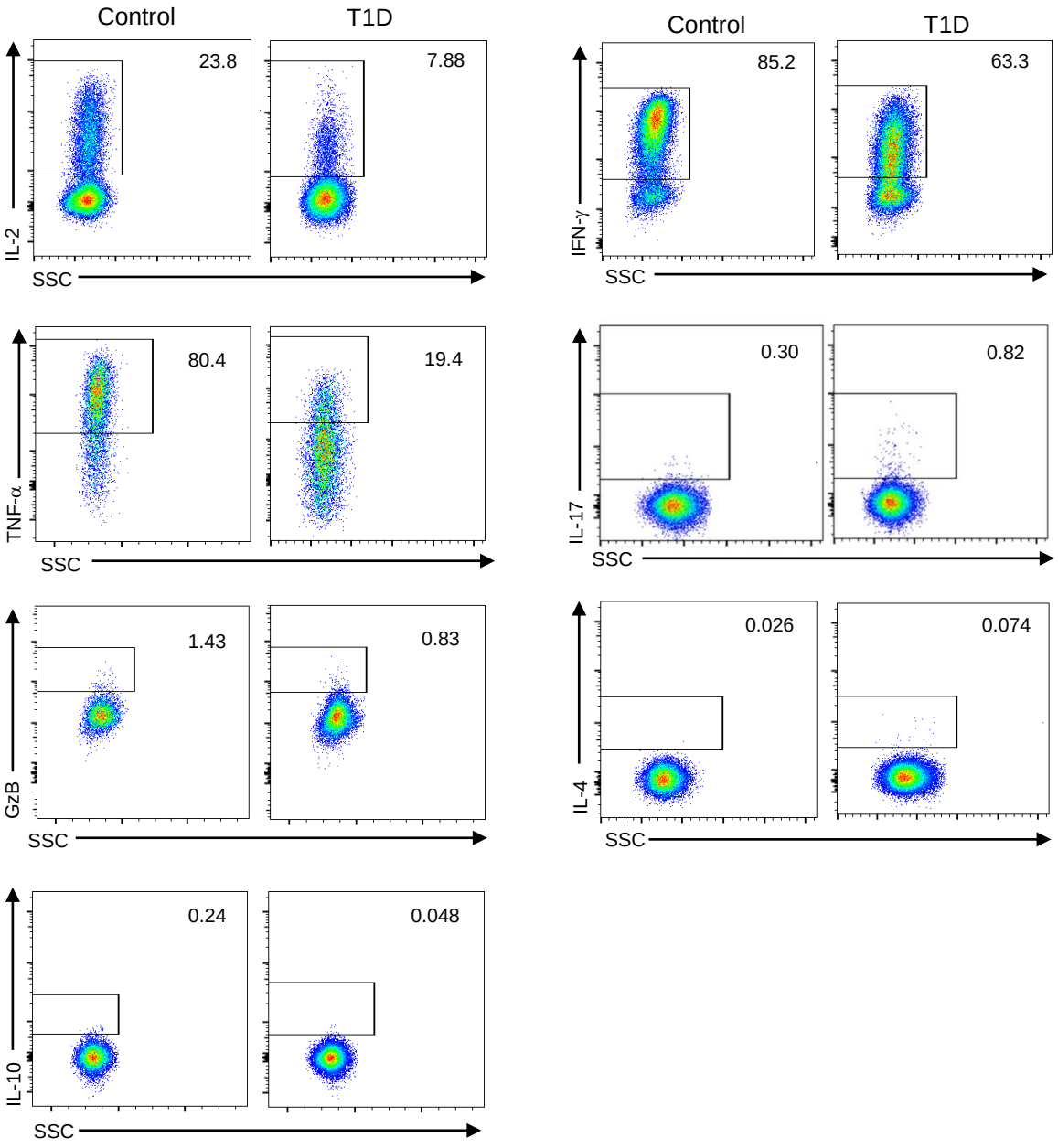
ESM Table 1: MAIT cell alterations in adults with type 1 diabetes (T1D).

	Men and women		Women	
	RO T1D	**LT T1D**	**LT T1D**	**LT T1D and AID**
MAIT cell frequency		$CD8^+$ MAIT cells (-) DN MAIT cells (-)	DN MAIT cells (-)	MAIT cells (-) $CD8^+$ MAIT cells (-) DN MAIT cells (- -)
MAIT cell homeostasis		Ki67 (++) CD127 (+)		CD127 (- -) BCL-2 (- -)
MAIT cell activation	CD25 (++++) IL-4 (++)	CD25 (+++) IL-4 (++) IL-17 (+)	CD25 (+++)	CD69 (+) CD25 (++)
MAIT cell exhaustion		PD1 (++) IL-2 (- - - -) IFN-γ (- -) TNF-α (-)	PD1 (++) IL-2 (- -) IFN-γ (- -) TNF-α (- -)	PD1 (+++) IL-2 (-) IFN-γ (-) TNF-α (- - - -)

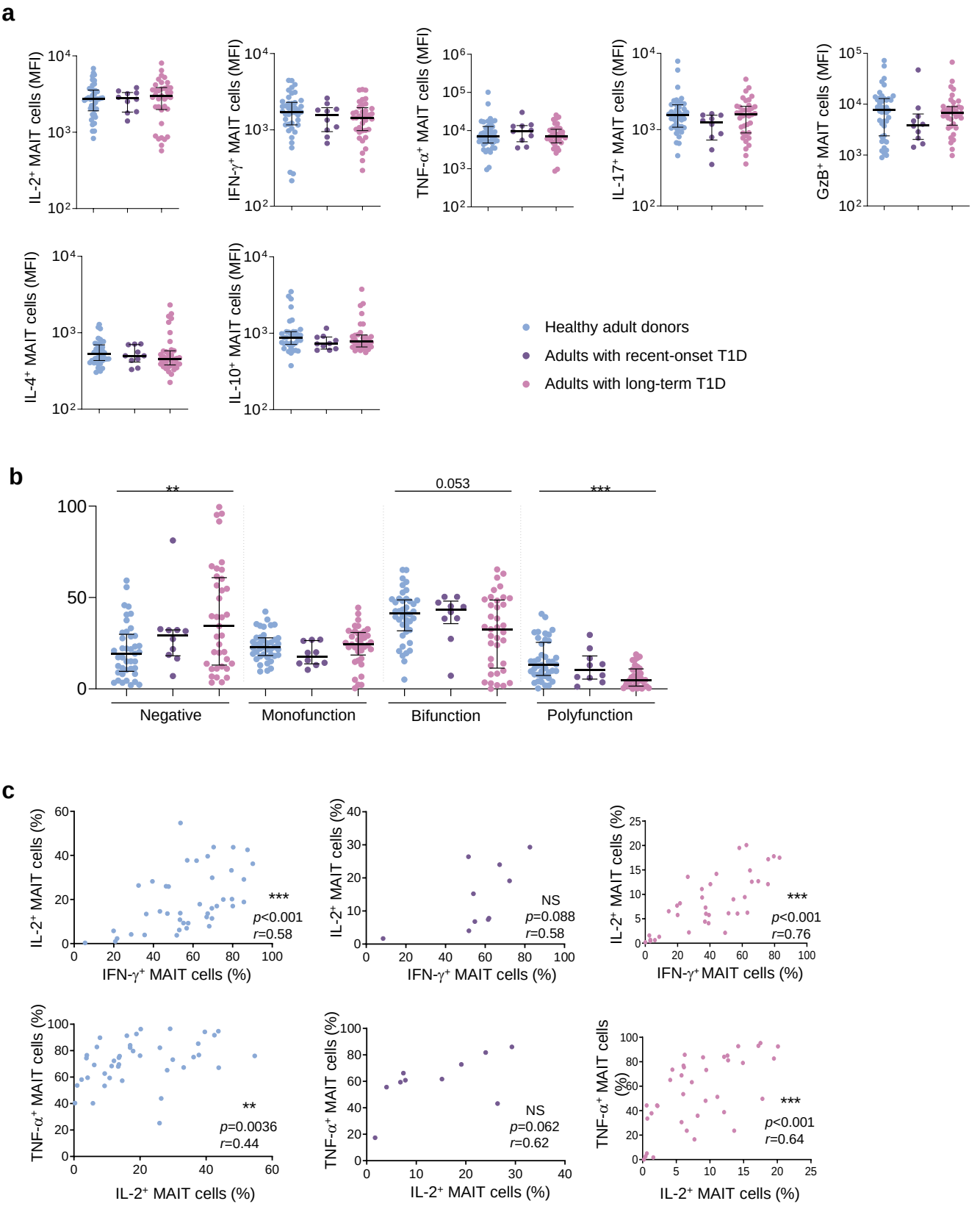
The '-' and '+' symbols in brackets respectively represent the decrease or the increase of the frequency of MAIT cells expressing the corresponding parameter compared to healthy individuals.



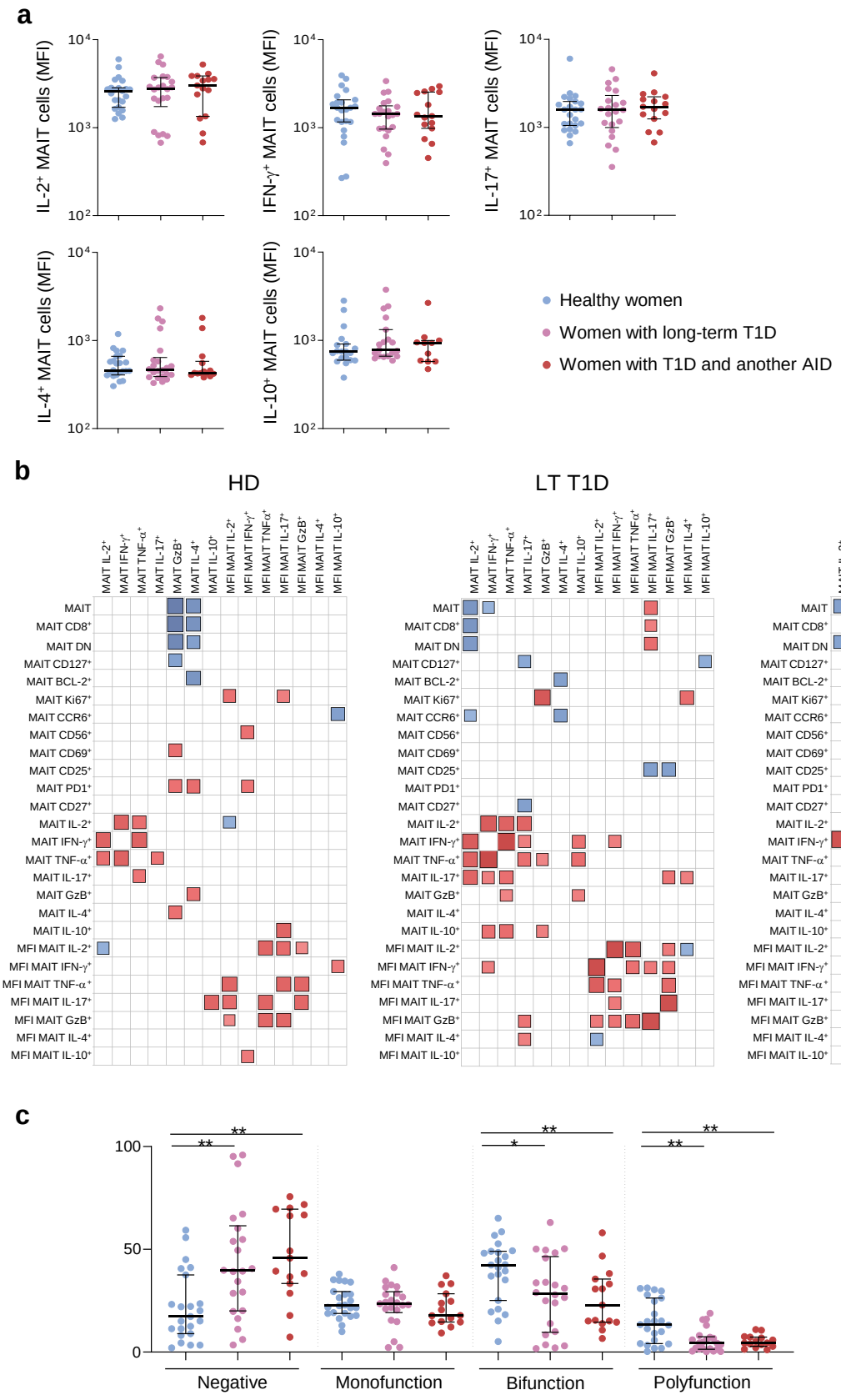
ESM Fig. 1 Flow cytometry gating strategy for MAIT cell identification, activation and exhaustion. Surface gating strategy, in the blood of a healthy adult donor, of circulating MAIT cell frequency used in Fig. 1 and 5 (**a**). Representative dot plot of CCR6$^+$, CD69$^+$, CD56$^+$, CD25$^+$, PD1$^+$, CD127$^+$, BCL-2$^+$, Ki67$^+$ and CD27$^+$ MAIT cells in blood from a healthy adult donor and an adult patient with long-term type 1 diabetes (**b**). Percentage cell frequencies are shown next to the outlined areas. FSC, Forward scatter. SSC, Side scatter.



ESM Fig. 2 Flow cytometry gating strategy for MAIT cell function. Representative dot plot of IL-2$^+$, INF-γ$^+$, TNF-α$^+$, IL-17$^+$, GzB$^+$, IL-4$^+$ and IL-10$^+$ MAIT cell in blood from a healthy adult donor and an adult patient with long-term type 1 diabetes. Percentage cell frequencies are shown next to the outlined areas. SSC, Side scatter.



ESM Fig. 3 Functional analysis of MAIT cells in adults with recent onset and long-term type 1 diabetes. Flow cytometry analysis of IL-2$^+$, IFN-γ$^+$, TNF-α$^+$, IL-17$^+$, Granzyme B$^+$ (GzB), IL-4$^+$ or IL-10$^+$ MAIT cell Mean Fluorescence Intensity (MFI) among total MAIT cells in healthy adult donors (n=42), adult patients with recent onset (RO) (n=10) or long-term (LT) (n=37) type 1 diabetes (**a**). Frequency of cumulative Th1 cytokines, IL-17, and GzB from Fig. 2a with negative as 0, monofunctional as 1, bifunctional as 2 and polyfunctional from 3 up to 5 different cytokine production by MAIT cells in healthy donors (n=42), patients with RO (n=10) or LT (n=37) type 1 diabetes (**b**). Correlations between IL-2$^+$ MAIT cell and IFN-γ$^+$ MAIT cell frequencies, between TNF-α$^+$ MAIT cell and IL-2$^+$ MAIT cell frequencies in healthy donors (n=42), patients with RO (n=10) or LT (n=37) type 1 diabetes (**c**). Each symbol represents an individual subject. Small horizontal lines indicate median with interquartile range. * p <0.05, ** p <0.01, *** p <0.001 (non-parametric two-tailed Mann-Whitney test or Spearman's correlation test).



ESM Fig. 4 Functional analysis of MAIT cells in women with long-term type 1 diabetes and long-term type 1 diabetes with another autoimmune disease. Flow cytometry analysis of IL-2$^+$, IFN-γ$^+$, IL-17$^+$, IL-4$^+$ or IL-10$^+$ MAIT cell Mean Fluorescence Intensity (MFI) among total MAIT cells in healthy women donors (n=22), women with long-term (LT) (n=23) type 1 diabetes or LT type 1 diabetes with another auto-immune disease (AID) (n=15) (**a**). Correlogram of circulating MAIT cell frequency, phenotype, function and MFI presented in Fig. 5a, 6a and in ESM Fig. 4a in healthy women donors (n=15-30), women patients with LT type 1 diabetes (n=14-27) or LT type 1 diabetes with another AID (n=9-17). Only significant Spearman's correlation coefficients are represented by color intensity and square size (**b**). Frequency of cumulative Th1 cytokines, IL-17, and GzB production from Figure 6a with negative as 0, monofunctional as 1, bifunctional as 2 and polyfunctional from 3 up to 5 different cytokine expression on MAIT cells in healthy women donors (n=22), women with LT type 1 diabetes (n=23) or LT type 1 diabetes with another AID (n=15) (**c**). * p <0.05, ** p <0.01 (non-parametric two-tailed Mann-Whitney tests or Spearman's correlation test).