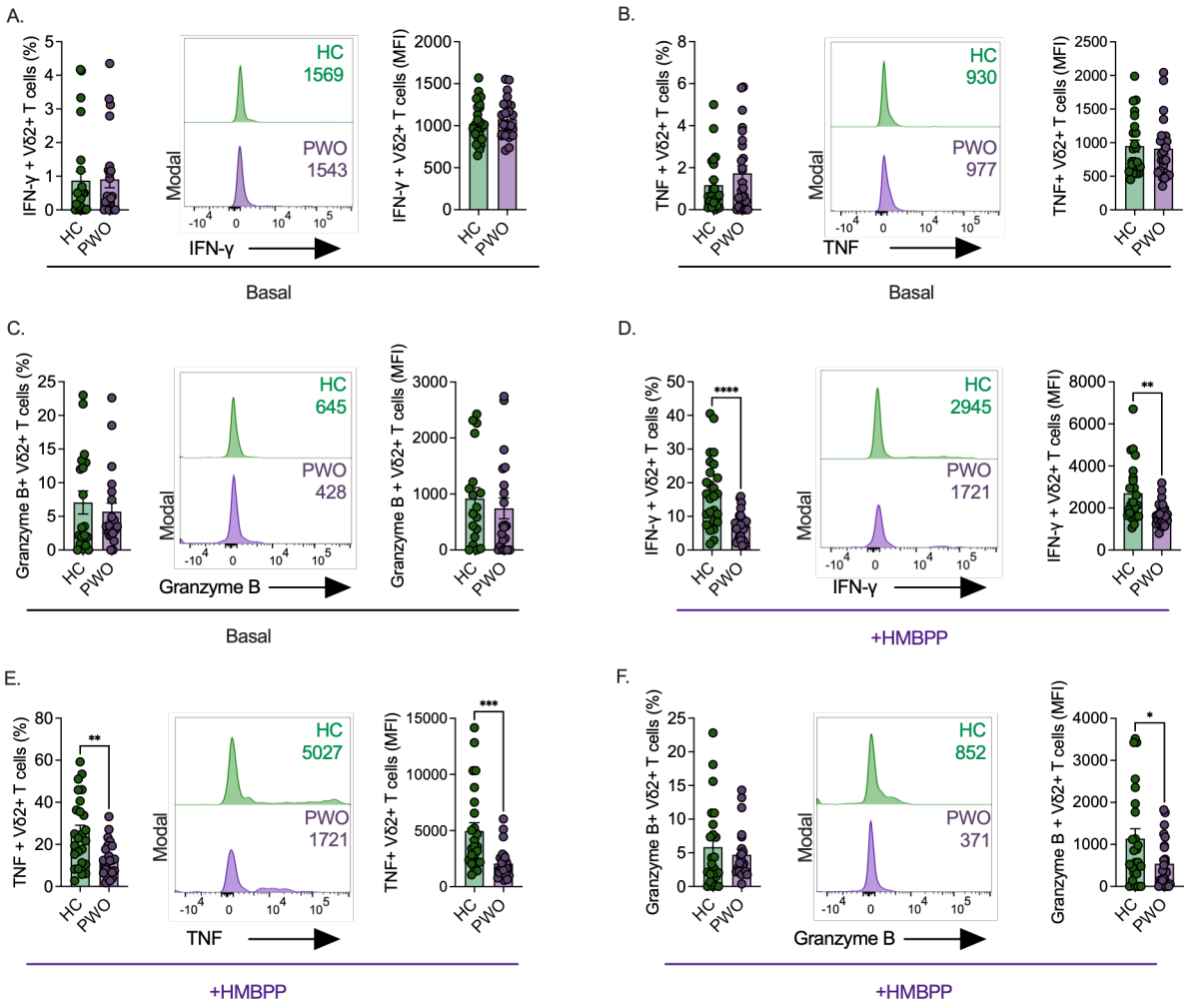
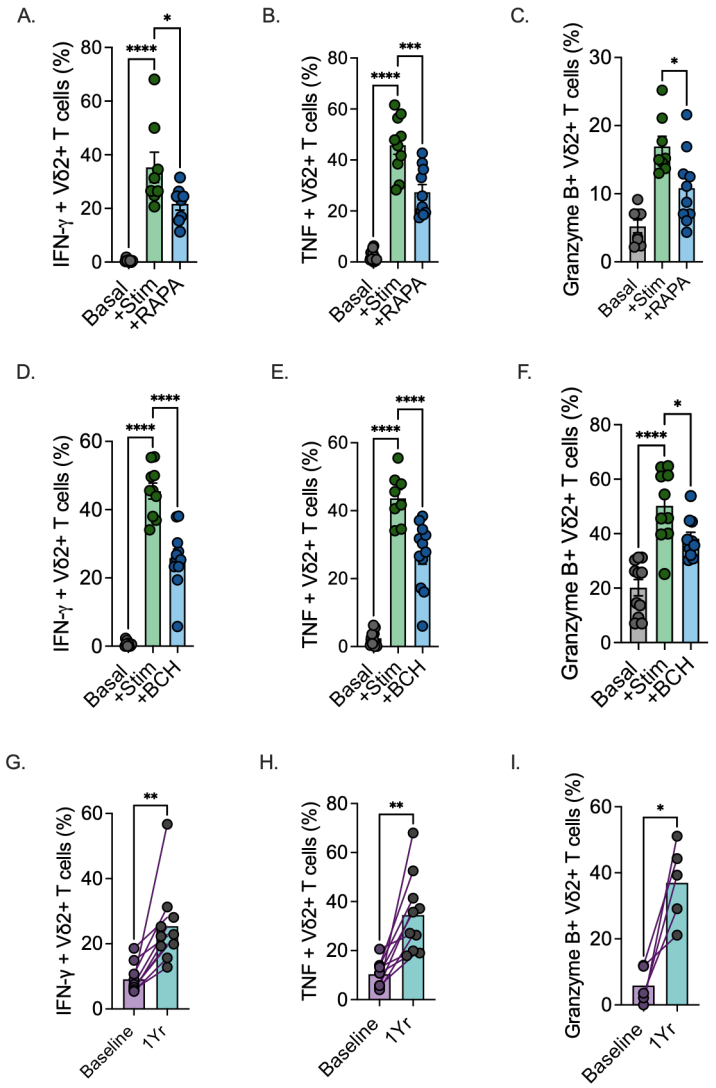
Supplementary Materials

Defective Vδ2+ T cell metabolic and functional responses in obesity are reversed with bariatric surgery

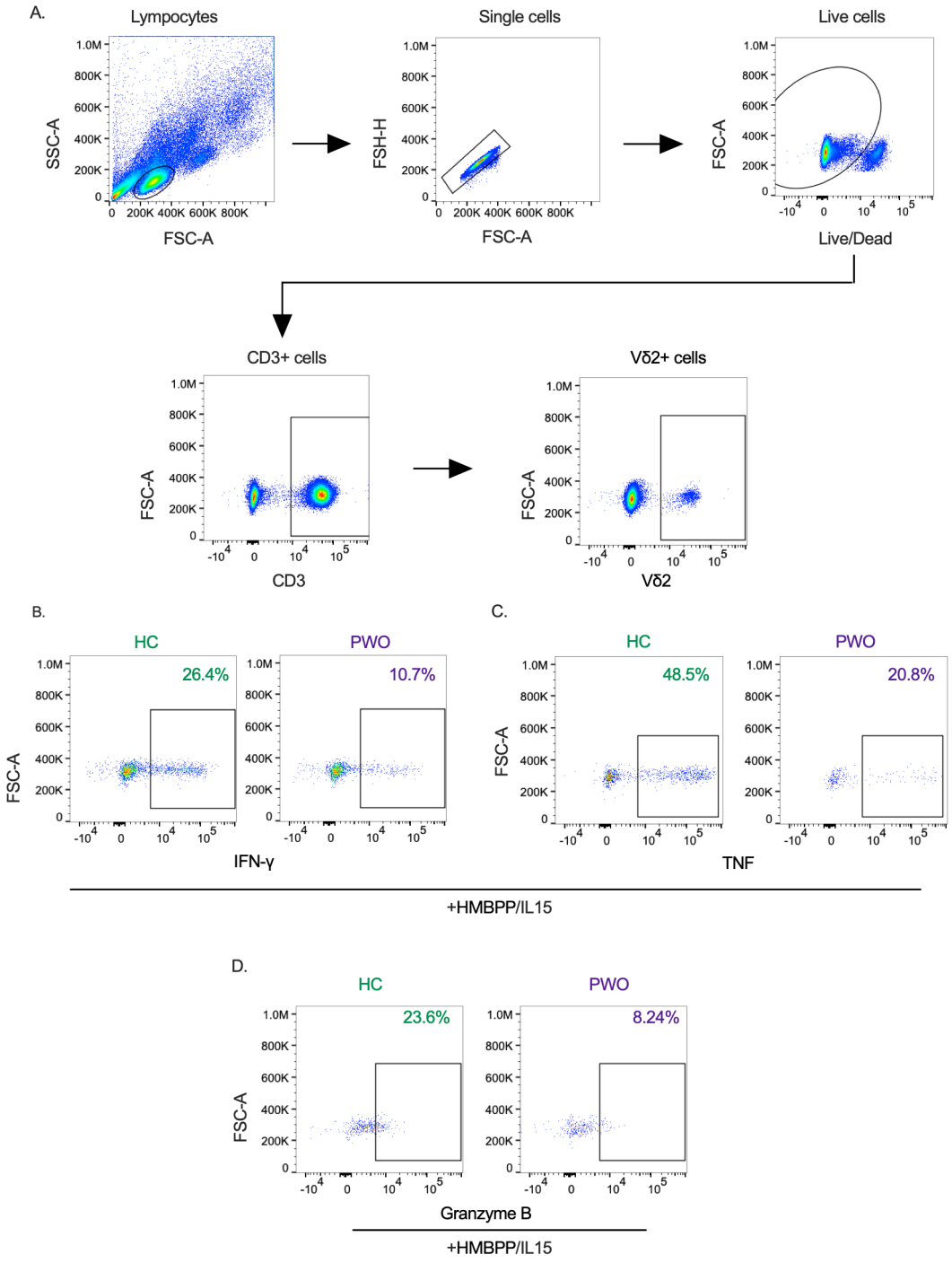
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Supplementary Figure 1. Obesity limits the functional responses of Vδ2+ T cells following activation with phosphoantigen. (A) Scatterplots and representative histograms showing the expression of IFNγ+Vδ2+ T cells in PBMC from HC and PWO. **(B)** Scatterplots and representative histograms showing the expression of TNF+Vδ2+ T cells in PBMC from HC and PWO. **(C)** Scatterplots and representative histograms showing the expression of Granzyme B+Vδ2+ T cells in PBMC from HC and PWO. **(D)** Scatterplots and representative histograms showing the expression of IFNγ+Vδ2+ T cells in PBMC from HC and PWO after stimulation with HMB-PP. **(E)** Scatterplots and representative histograms showing the expression of TNF+Vδ2+ T cells in PBMC from HC and PWO after stimulation with HMB-PP. **(F)** Scatterplots and representative histograms showing the expression of Granzyme B+Vδ2+ T cells in PBMC from HC and PWO after stimulation with HMB-PP. All data are expressed as mean ± SEM, each data point is an individual donor, (**A**), n=23-26 (**B**), n=19-21 (**C**), n=26 (**D**), n=25 (**E**) and n= 23-25 (**F**). * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$. All data was analysed using paired students t-test (two-tailed).



Supplementary Figure 2. Percentage of Vδ2+ T cells producing cytokine following activation with phosphoantigen/IL-15. (A-C). Scatterplots demonstrating impact of rapamycin treatment on the percentage of Vδ2+ T cells producing IFNγ, TNF or Granzyme B following 18 hours stimulation with phosphoantigen (+HMB-PP) and IL-15 in HC. **(D-F).** Scatterplots demonstrating impact of BCH treatment on the percentage of Vδ2+ T cells producing IFNγ, TNF or Granzyme B following 18 hours stimulation with phosphoantigen (+HMB-PP) and IL-15 in HC. **(G-I).** Scatterplots demonstrating the percentage of Vδ2+ T cells producing IFNγ, TNF or Granzyme B following 18 hours stimulation with phosphoantigen (+HMB-PP) and IL-15 in a matched cohort of PWO before (baseline) and 1 year after bariatric surgery (1YR). All data are expressed as mean ± SEM, each data point is an individual donor, n=8 (**A**), n=10 (**B, G, H**), n=8-10 (**C**), n=10-11 (**D, F**), n=8-12 (**E**) and n=5 (**I**). * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$. All data was analysed using paired students t-test (two-tailed).



Supplementary Figure 3. Gating strategy for flow cytometry experiments. (A) Representative gating strategy for the identification of Vδ2+ T cells in human peripheral blood. **(B)** Representative flow cytometric dot plots for IFNγ+Vδ2+ T cells in HC and PWO following stimulation with HMB-PP and IL-15 for 18 hours. **(C)** Representative flow cytometric dot plots for TNF+Vδ2+ T cells in HC and PWO following stimulation with HMB-PP and IL-15 for 18 hours. **(D)** Representative flow cytometric dot plots for Granzyme B+Vδ2+ T cells in HC and PWO after stimulation with HMB-PP and IL-15 for 18 hours.

Table 3. Key resources table

Reagent	Source	Identifier
Fixable viability dye	eBioscience	Cat# 65-0866-14
CD3 (REA613)	Miltenyi Biotec	Cat# 130-127-377
CD3 (clone UCHT1)	Biolegend	Cat# 300464
Vδ2	Miltenyi Biotec	Cat# 130-111-015
IFNγ	Miltenyi Biotec	Cat# 130-133-382
TNF	Miltenyi Biotec	Cat# 130-127-531
Granzyme B	Miltenyi Biotec	Cat# 130-120-703
CD98	Miltenyi Biotec	Cat# 130-126-170
S6 pS235/pS236	Miltenyi Biotec	Cat# 130-124-239
LAMTOR5	Abcam	Cat# ab157480
Puromycin	Sigma	Cat# MABE343
Donkey Anti-Rabbit IgG	Jackson ImmunoResearch	Cat# 711-116-152