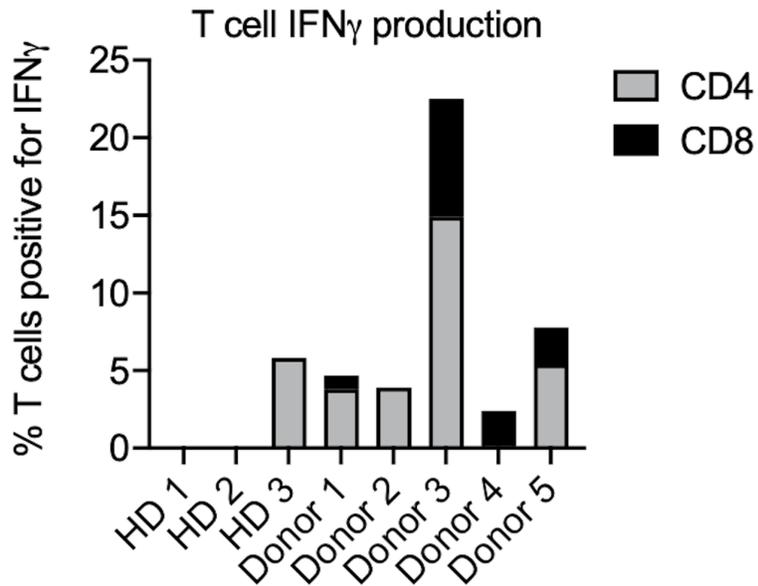


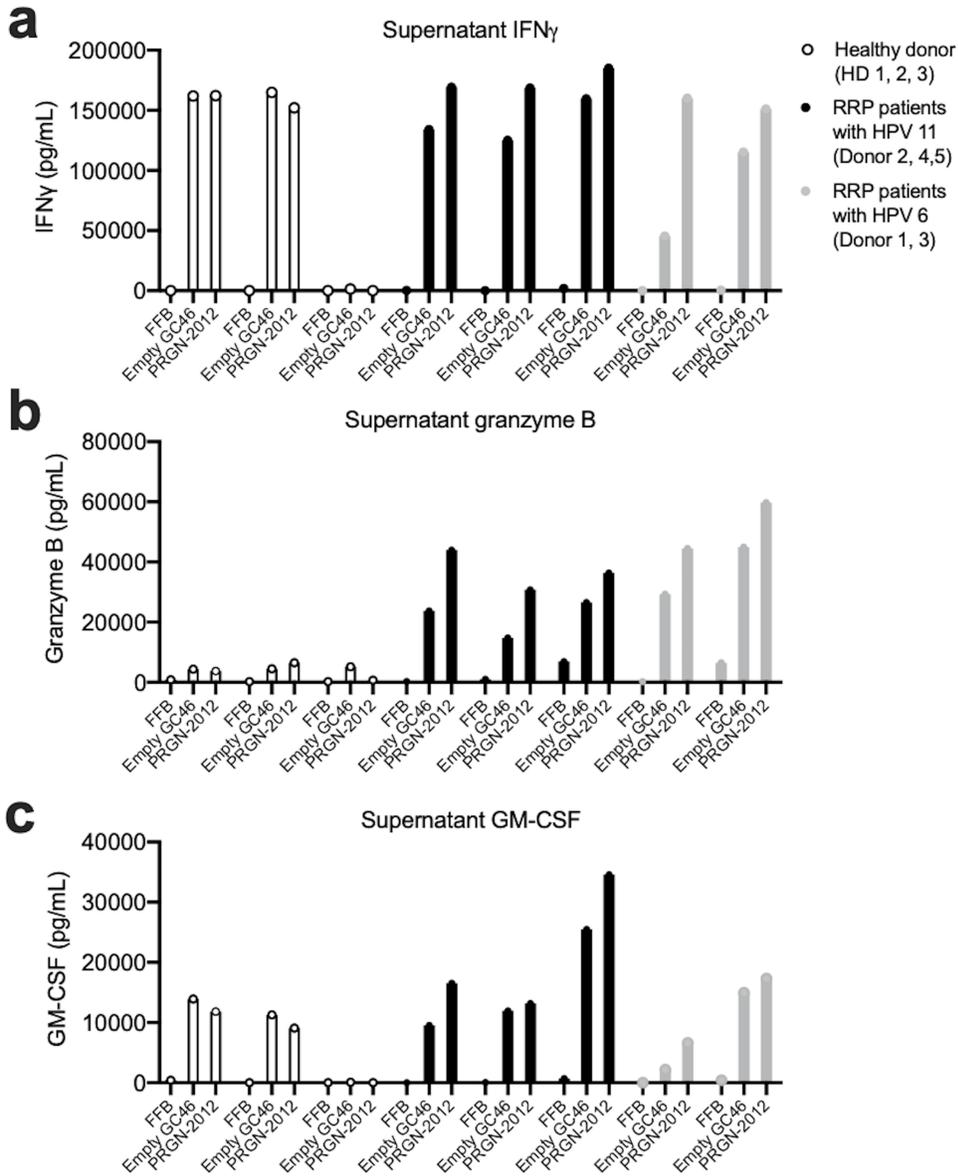
Supplemental Figures



Supplementary Figure 1 – PRGN-2012 induced IFN $\gamma$  production in both CD8+ and CD4+

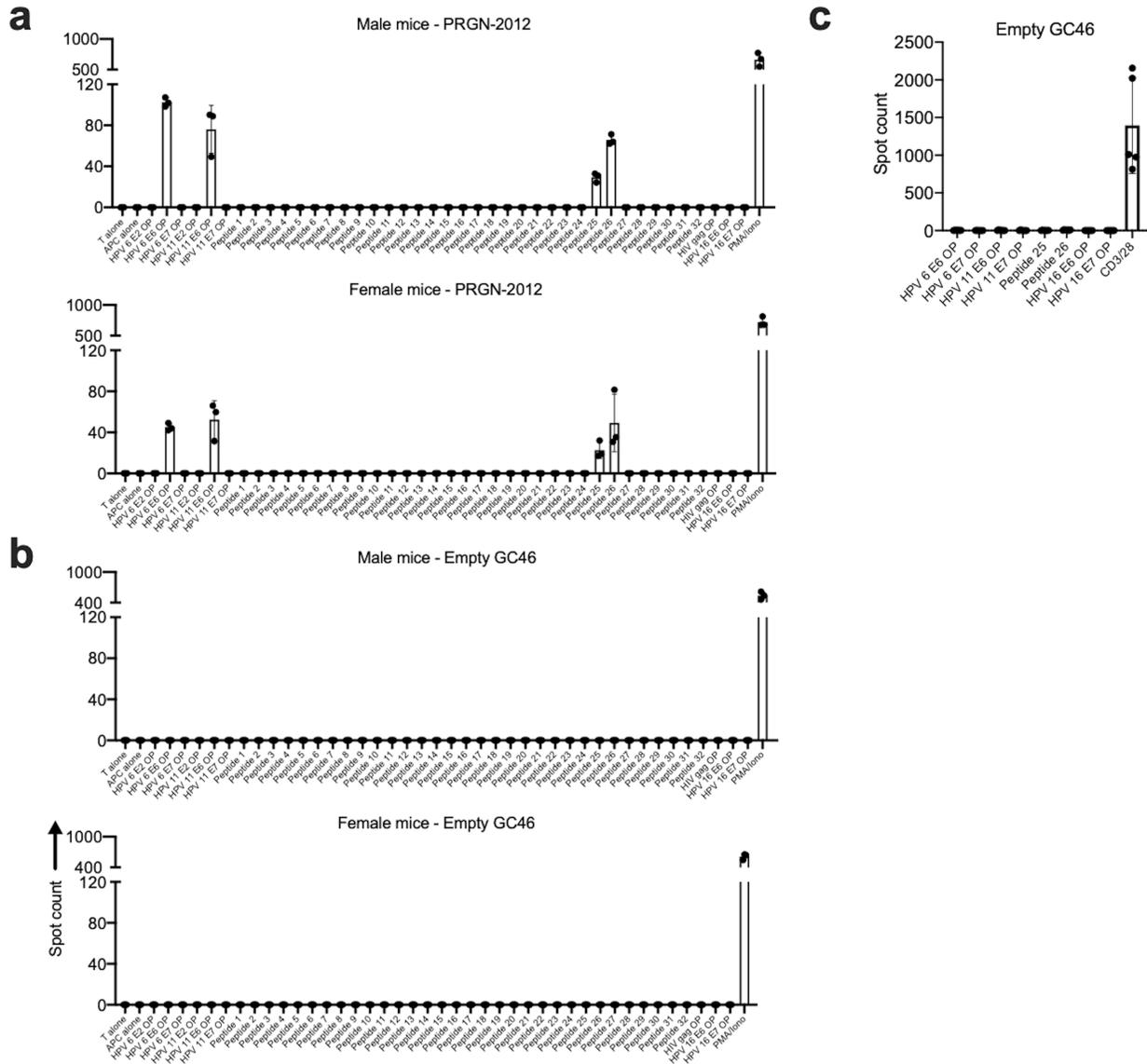
T lymphocytes

Quantification of percentage of T lymphocytes positive for IFN $\gamma$  assessed via intracellular flow cytometry following in vitro stimulation as in Figure 1.



**Supplementary Figure 2 – PRGN-2012 induced both antigen-specific and antigen-independent inflammation**

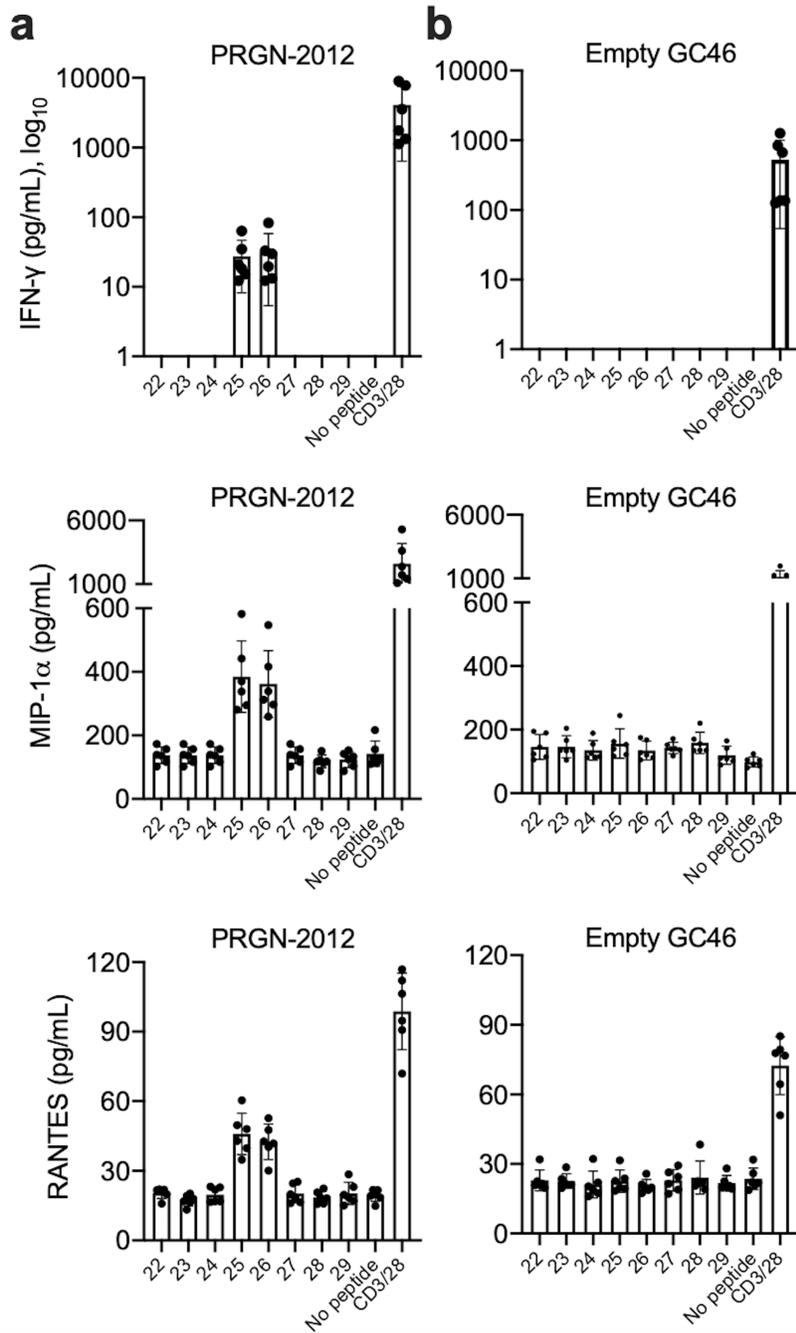
Un-normalized supernatant quantification of (A) IFN $\gamma$ , (B) granzyme B and (C) GM-CSF from co-cultures assessing HPV antigen-specific responses in T lymphocytes isolated from the blood of patients with HPV 11-driven RRP (n = 3, black bars), HPV 6-driven RRP (n = 2, grey bars) or healthy donors (n= 3, open bars) following two rounds of *in vitro* simulation with PRGN-2012 or empty GC46.



**Supplementary Figure 3 – Induction of HPV antigen-specific immunity following vaccination in male and female mice**

Quantification of IFN $\gamma$  spots in male and female mice (n = 3/group) vaccinated with **(A)** PRGN-2012 or **(B)** empty GC46.

**C**, quantification of IFN $\gamma$  spots in female mice vaccinated with empty GC46 in an independent experiment.



**Supplementary Figure 4 – PRGN-2012 induced antigen-specific inflammatory cytokine production in vaccinated mice**

Quantification of supernatant IFN $\gamma$ , MIP-1a and RANTES from co-cultures assessing peptide-specific responses in splenic T lymphocytes from mice (n = 6/group) treated with (A) PRGN-2012 or (B) empty GC46 vector.

**Supplementary Table I. HLA class I haplotypes of RRP patients whose blood products were used for in vitro stimulation with PRGN-2012.**

Identification	HPV serotype	HLA-A	HLA-B	HLA-C
Donor 1	6	*01/*02	*08/*37	*06/*07
Donor 2	11	*01/*32	*08/*14	*07/*08
Donor 3	6	*03/*11	*14/*18	*05/*08
Donor 4	11	*01/*01	*08/*08	*07/*07
Donor 5	11	*01/*24	*08/*39	*07/*07