

Supplementary figures

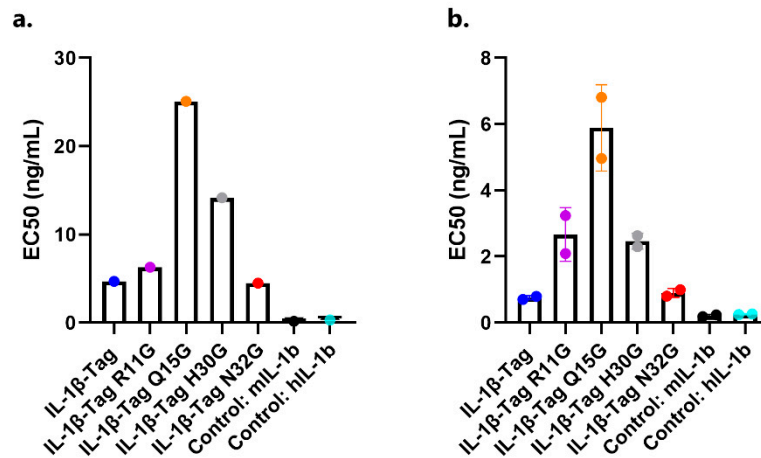


Figure S1 IL-1 β biological activity EC₅₀ values. Two technical replicates of the HEK293 cell-based IL-1 β activity assay. Dilution curves were fitted using [Agonist] vs. response – variable slope (four parameters) equation. EC₅₀ values were estimated from each fit.

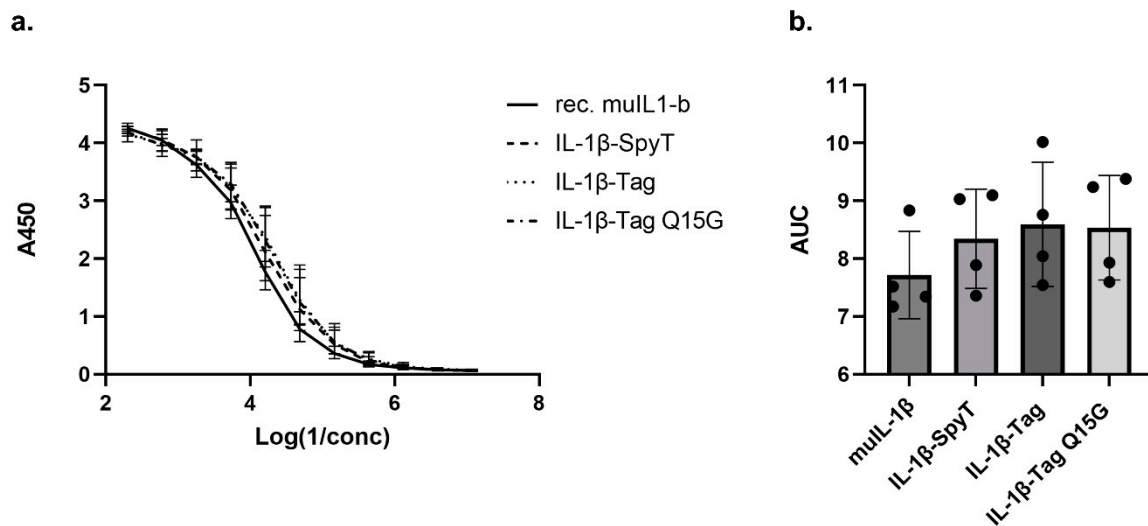


Figure S2 Test of IL-1 β coat proteins against serum from mice vaccinated with cVLP:IL-1 β WT The reactivity of serum from mice vaccinated with cVLP:IL-1 β (7 μ g dose, W22) (n=4) was tested against recombinant mIL-1 β , IL-1 β -SpyT, IL-1 β -Tag or IL-1 β -Tag Q15G. **a.** Total IgG anti-IL-1 β dilution curve with geometric mean \pm geometric SD. **b.** Anti-IL-1 β total IgG titers depicted as AUC, with mean \pm SD. Statistical analysis was performed on log-transformed AUC values using one-way ANOVA, Tukeys multiple comparisons test (adjusted p-value < 0.05 was accepted as significant).

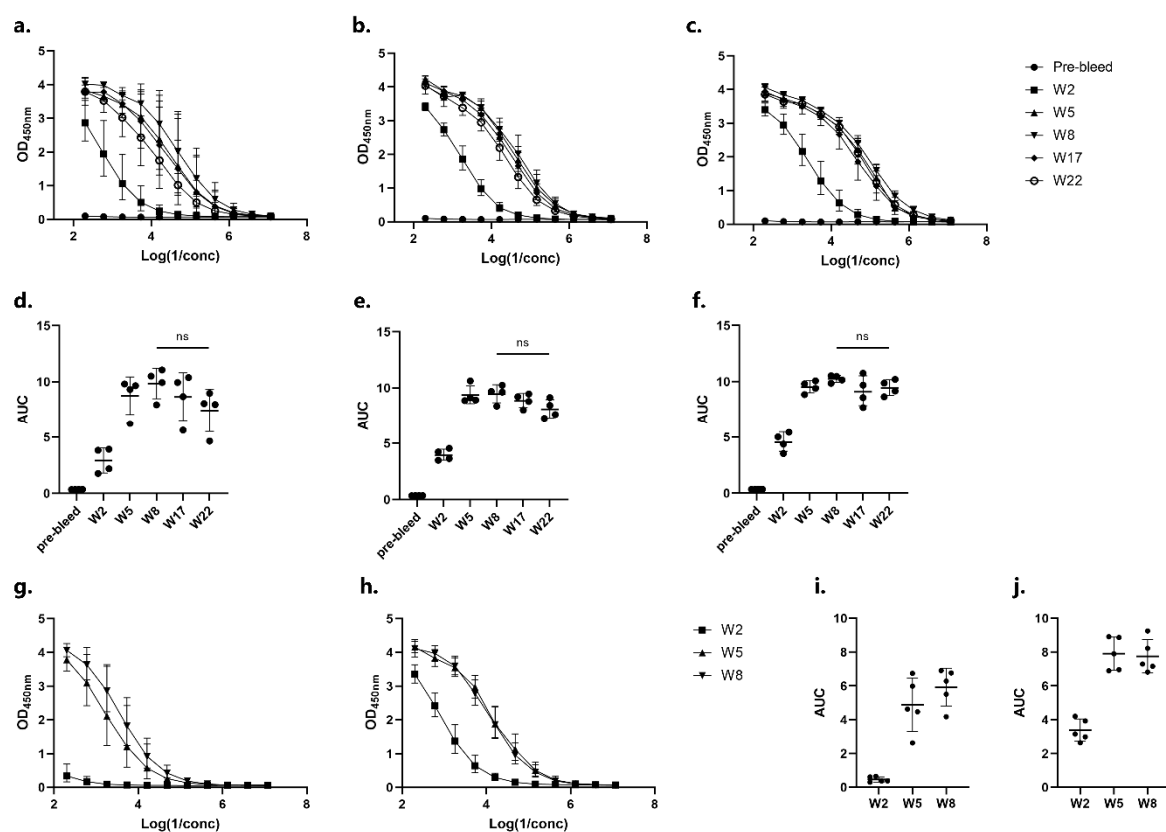


Figure S3 Total IgG titers measured in serum from mice vaccinated with cVLP:IL-1 β vaccines. Serum samples were obtained from female C57BL/6 mice pre vaccination (pre-bleed) and two weeks after prime (W2), boost (W5) and second boost (W8), and additional blood samples at W17 and W22 for mice vaccinated with cVLP:IL-1 β **a-c**. Total IgG anti-IL-1 β dilution curve with geometric mean \pm geometric SD for mice vaccinated with cVLP:IL-1 β dose of 2 μ g IL-1 β (**a**), dose of 7 μ g IL-1 β (**b**) or dose of 10 μ g IL-1 β (**c**). **d-f**. Total IgG anti-IL-1 β titers depicted as AUC with mean \pm SD from mice vaccinated with cVLP:IL-1 β dose of 2 μ g IL-1 β (**d**), dose of 7 μ g IL-1 β (**e**) or dose of 10 μ g IL-1 β (**f**). **g**. Total IgG anti-IL-1 β dilution curve with geometric mean \pm geometric SD for mice vaccinated with cVLP:IL-1 β . **h**. Total IgG anti-IL-1 β dilution curve with geometric mean \pm geometric SD for mice vaccinated with cVLP:IL-1 β Q15G. **i**. Total IgG anti-IL-1 β titers depicted as AUC with mean \pm SD from mice vaccinated with cVLP:IL-1 β **j**. Total IgG anti-IL-1 β titers depicted as AUC with mean \pm SD from mice vaccinated with cVLP:IL-1 β Q15G.

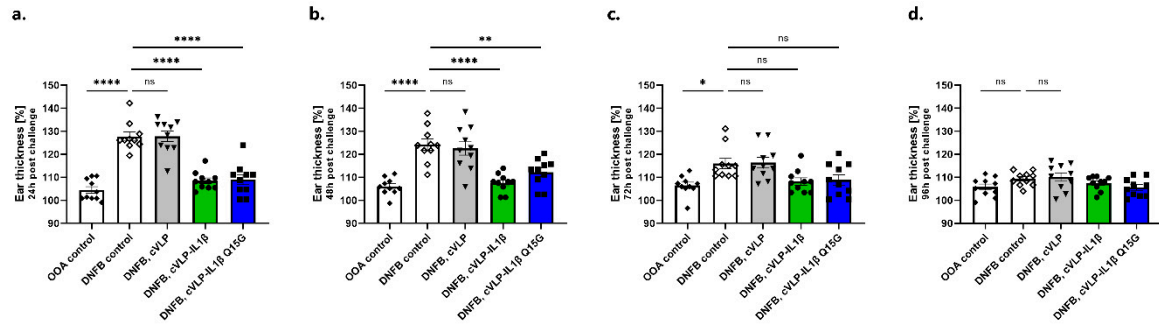


Figure S4 Individual measurements of ear thickness post challenge of mice. Ear thickness measured **a.** 24h, **b.** 48h, **c.** 72h and **d.** 96h post DNFB challenge, depicted as percentage (%) with mean \pm SEM. Graphs show data from two technical replicates (n=5). Statistical analysis was performed on log-transformed values using one-way ANOVA, Tukeys multiple comparisons test (adjusted p-value < 0.05 was accepted as significant).

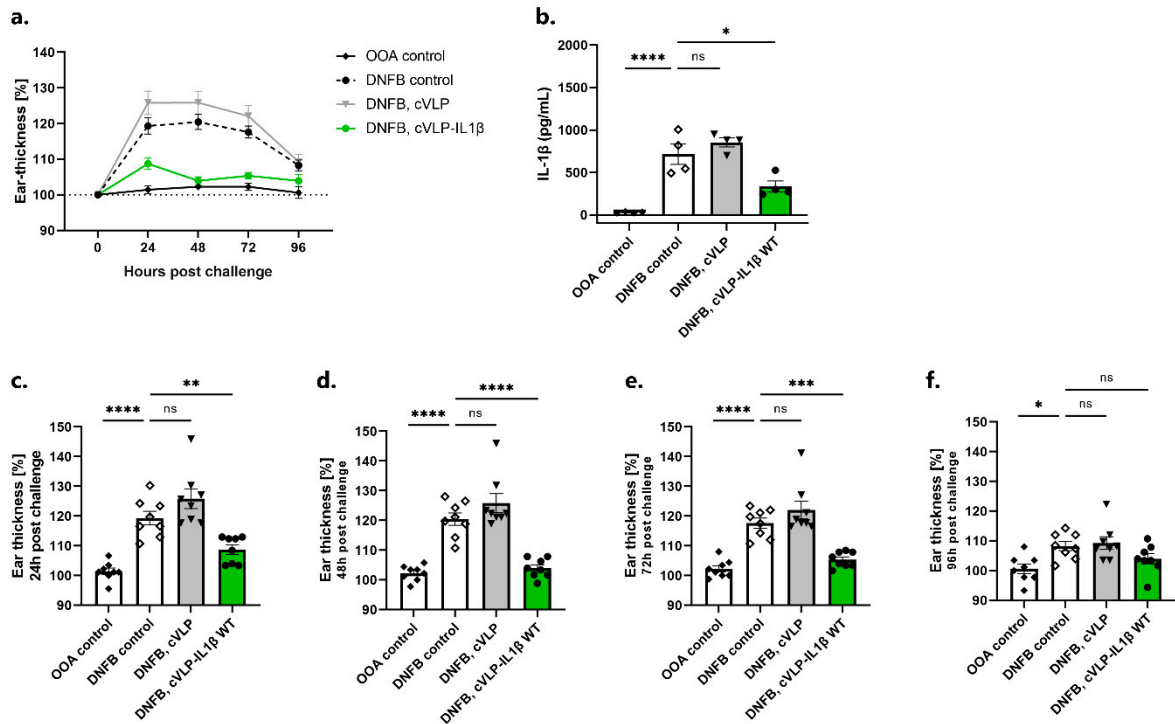


Figure S5 Challenge study for mice vaccinated with another cVLP:IL-1 β vaccine batch. **a.** Ear thickness measured on groups of mice (n=8) 24h, 48h, 72h and 96h post challenge, depicted as percentage (%) with mean \pm SEM. **b.** IL-1 β levels with mean \pm SEM measured in ears from groups of mice (n=4) sensitized and challenged with 1) OOA, 2) 0.15% DNFB, 3) 0.15% DNFB and vaccinated with unconjugated cVLP and 4) 0.15% DNFB and vaccinated with cVLP:IL-1 β WT. **c-f.** Ear thickness measured 24h (**c**), 48h (**d**), 72h (**e**) and 96h (**f**) post DNFB challenge, depicted as percentage (%) with mean \pm SEM. Statistical analysis was performed on log-transformed values using one-way ANOVA, Tukeys multiple comparisons test (adjusted p-value < 0.05 was accepted as significant).

3' R11G primer	TTT CCA TGG GCC ATC ACC ATC ATC ATC ATG AAA ATC TGT ATT TTC AGG GTG TTC CGA TTC GTC AGC TGC ATT ATC GTC TGG GCG ATG AAC AGC AGA AAA GCC TGG
5' PCR1 Q15G primer	CCA GGC TTT TGC CCT GTT CAT CAC GCA GAC GAT AAT GCA GC
3' PCR2 Q15G primer	ATG AAC AGG GCA AAA GCC TGG TTC TGA GCG ATC CGT ATG AAC T
5' PCR1 H30G primer	CCA TTC AGG CCC AGT GCT TTC AGT TCA TAC GGA TCG CTC AG
3' PCR2 H30G primer	AAA GCA CTG GGC CTG AAT GGT CAG AAT ATT AAC CAG CAG GTC A
5' PCR1 N32G primer	TAT TCT GAC CGC CCA GAT GCA GTG CTT TCA GTT CAT ACG GAT C
3' PCR2 N32G primer	GCA TCT GGG CGG TCA GAA TAT TAA CCA GCA GGT CAT TTT CAG C

Table S1 Primers for introducing mutations into the muIL-1 β gene sequence.