Supplementary Figure 1 shows pro-inflammatory cytokines (IFN-γ, IL-17, and IL-22) production by whole lymphocytes in *ΔznuA B. melitensis* and RB51 vaccinated BALB/c and IFN-$\gamma^{-/-}$ mice before and after challenge with wild-type *B. melitensis* 16M.

Fig. S1

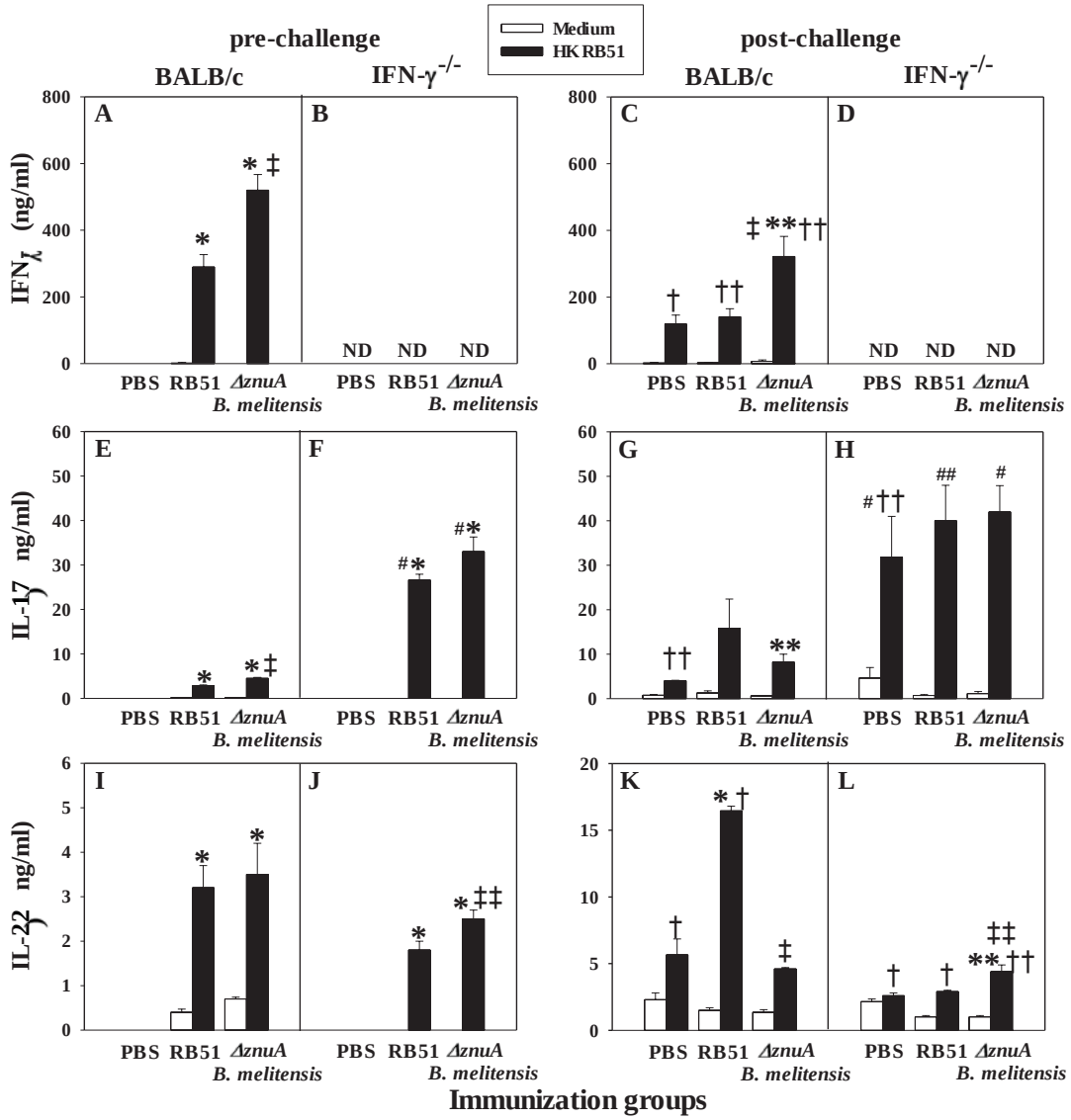
Medium
HK RB51
pre-challenge
post-challenge
BALB/c
IFN-γ-/-
BALB/c
IFN-γ-/-
A
B
C
D
E
F
G
H
I
J
K
L
IFNγ (ng/ml)
IL-17 (ng/ml)
IL-22 (ng/ml)
ND
PBS
RB51
ΔznuA
B. melitensis
Immunization groups

Fig. S1. *ΔznuA B. melitensis* and RB51 vaccines stimulate enhanced IFN-γ and IL-22 production by BALB/c lymphocytes and IL-17 and IL-22 production by IFN-$\gamma^{-/-}$ lymphocytes before and after challenge with wild-type *B. melitensis* 16M. (A,C,E,G,I,K) BALB/c and (B,D,F,H,J,L) IFN-$\gamma^{-/-}$ mice (18/group) were nasally vaccinated with 10^9 CFUs of *ΔznuA B. melitensis*, RB51, or sPBS. Three wks after vaccination, whole splenic lymphocytes (pooled from 2-3 mice/culture and at least three cultures/experiment) from half of the mice were restimulated with media or 1 x 10^9 CFUs of heat-killed RB51 (HKRB51) for 3 days. Collected supernatants were evaluated for (A, B) IFN-γ, (E, F) IL-17, and (I, J) IL-22 production using standard cytokine ELISA methods. The remaining mice were nasally challenged with 5 x 10^4 CFUs of wild-type *B. melitensis* 16M 6 wks after vaccination. At four weeks post-challenge, harvested splenic lymphocytes (pooled from 2-3 mice/culture and at least three cultures/experiment) were cultured as described above, and cell culture supernatants were evaluated for (C, D) IFN-γ, (G, H) IL-17, and (K, L) IL-22 production. Results are depicted as the mean ± SEM of triplicate cultures from two independent experiments. Significant differences in IFN-γ, IL-17, and IL-22 production were determined: *$P \leq 0.001$, **$P \leq 0.05$ (versus PBS-dosed mice); $^{\dagger}P < 0.001$, $^{\dagger\dagger}P < 0.05$ (versus pre-challenge level for the same vaccine group); and $^{\ddagger}P < 0.001$, $^{\ddagger\ddagger}P < 0.05$ (differences between RB51- and *ΔznuA B. melitensis*-vaccinated mice); $^{\#}P<0.001$, $^{\#\#}P<0.001$ (differences between BALB/c and IFN-$\gamma^{-/-}$ mice to the same vaccine). ND, none detected.