## Supplemental figures

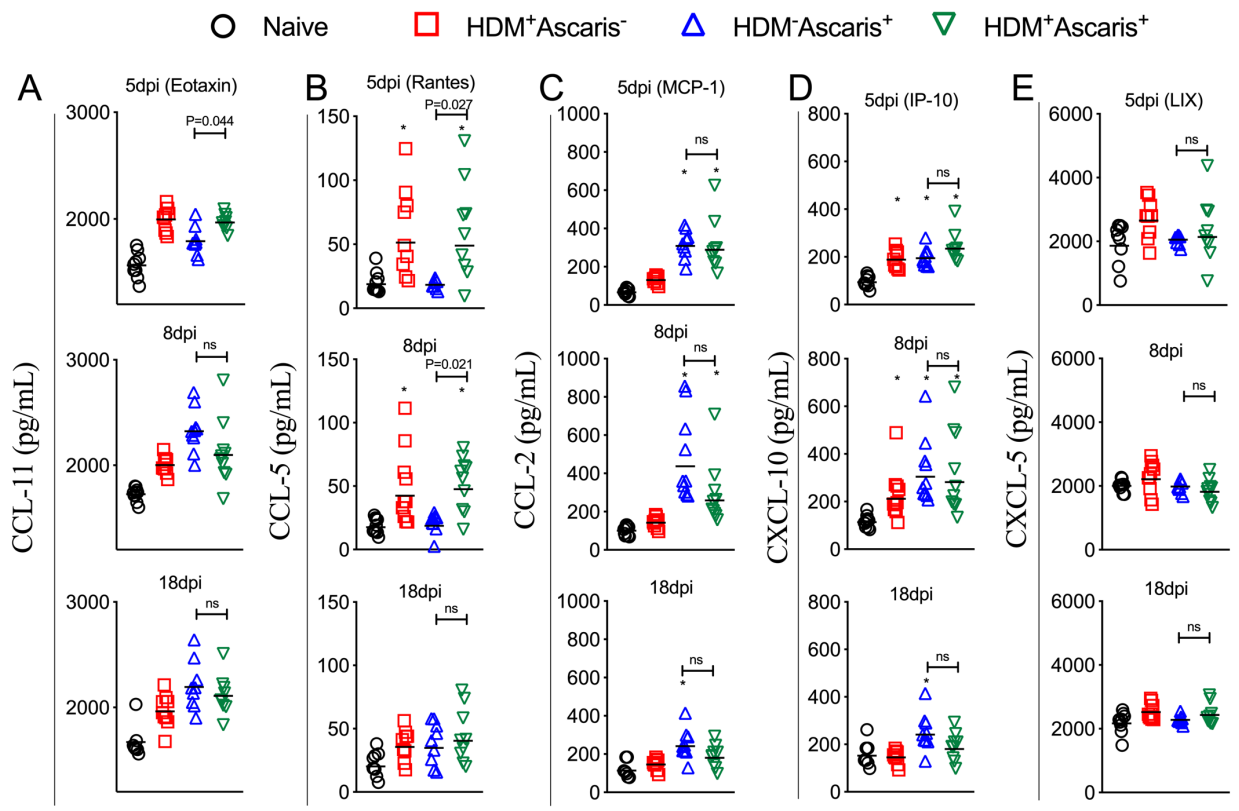



**Figure S1: Allergic sensitization followed by *Ascaris* infection drives a marked influx of inflammatory cells to the lungs elicited by a robust increase of chemokines.** Luminex analysis for quantification of the chemokines CCL-11 (A), CCL-5 (B), CCL-2 (C), CXCL-10 (D), CXCL-5 (E) in the lung homogenates of HDM$^-$*Ascaris*$^-$ (O), HDM$^+$*Ascaris*$^-$(□), HDM$^-$*Ascaris*$^+$ (Δ) and HDM$^+$*Ascaris*$^+$ (∇) Balb/c mice at different time points, at day 5 (n=9 mice/group), day 8 (n=10 mice/group) and day 18 (n=10 mice/group). Each symbol represents a single mouse and the horizontal bars are the geometric means. P values are indicated in each graph. Statistical differences were considered when P<0.05 by the Kruskal-Wallis test followed by the Dunn's Multiple Comparison Test and were used for all comparisons, with focus to the differences between HDM$^-$Ascaris$^+$ and HDM$^+$Ascaris$^+$.; * means significantly different (p<0.05) from naïve (HDM$^-$Ascaris$^-$) group.

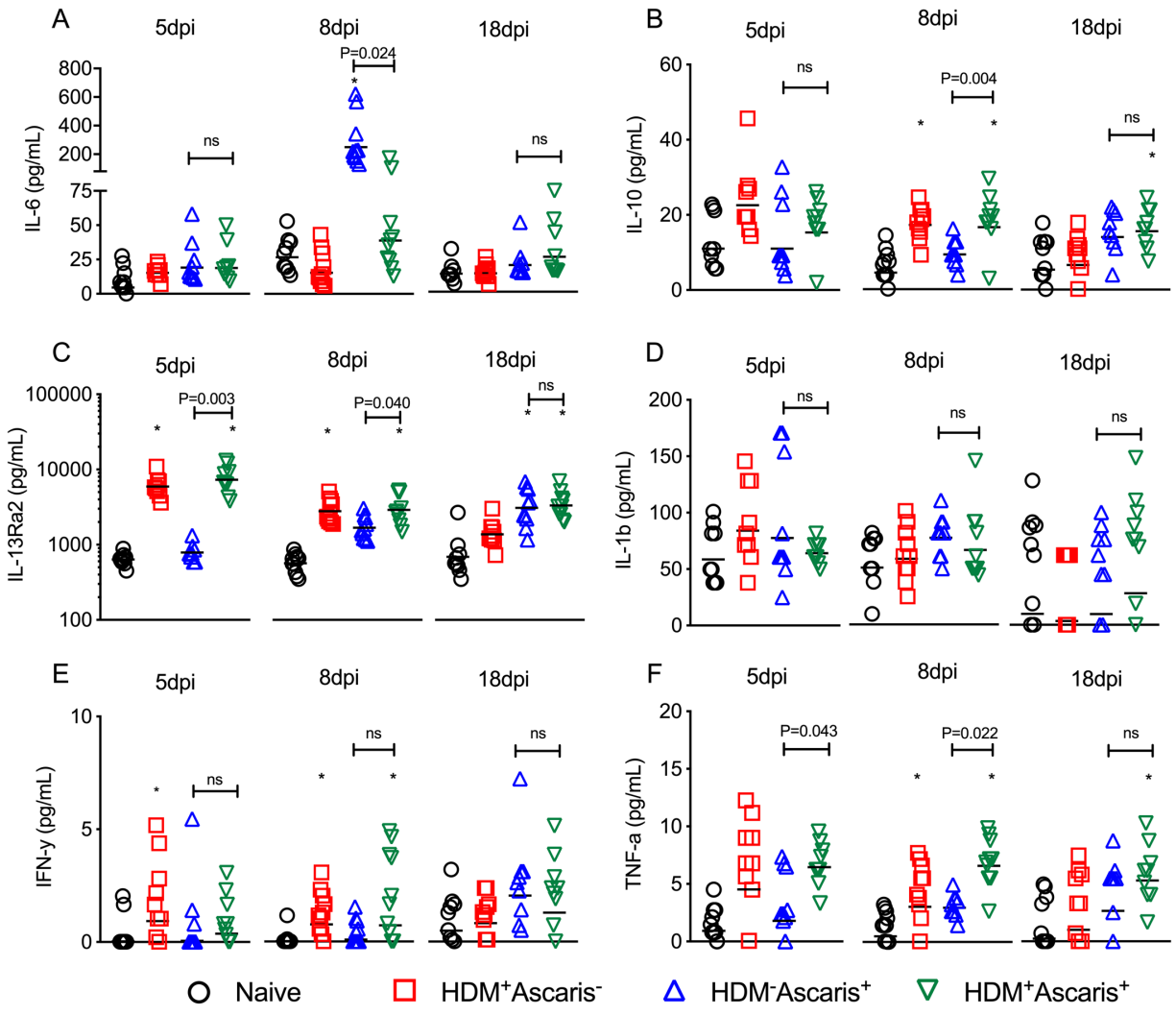
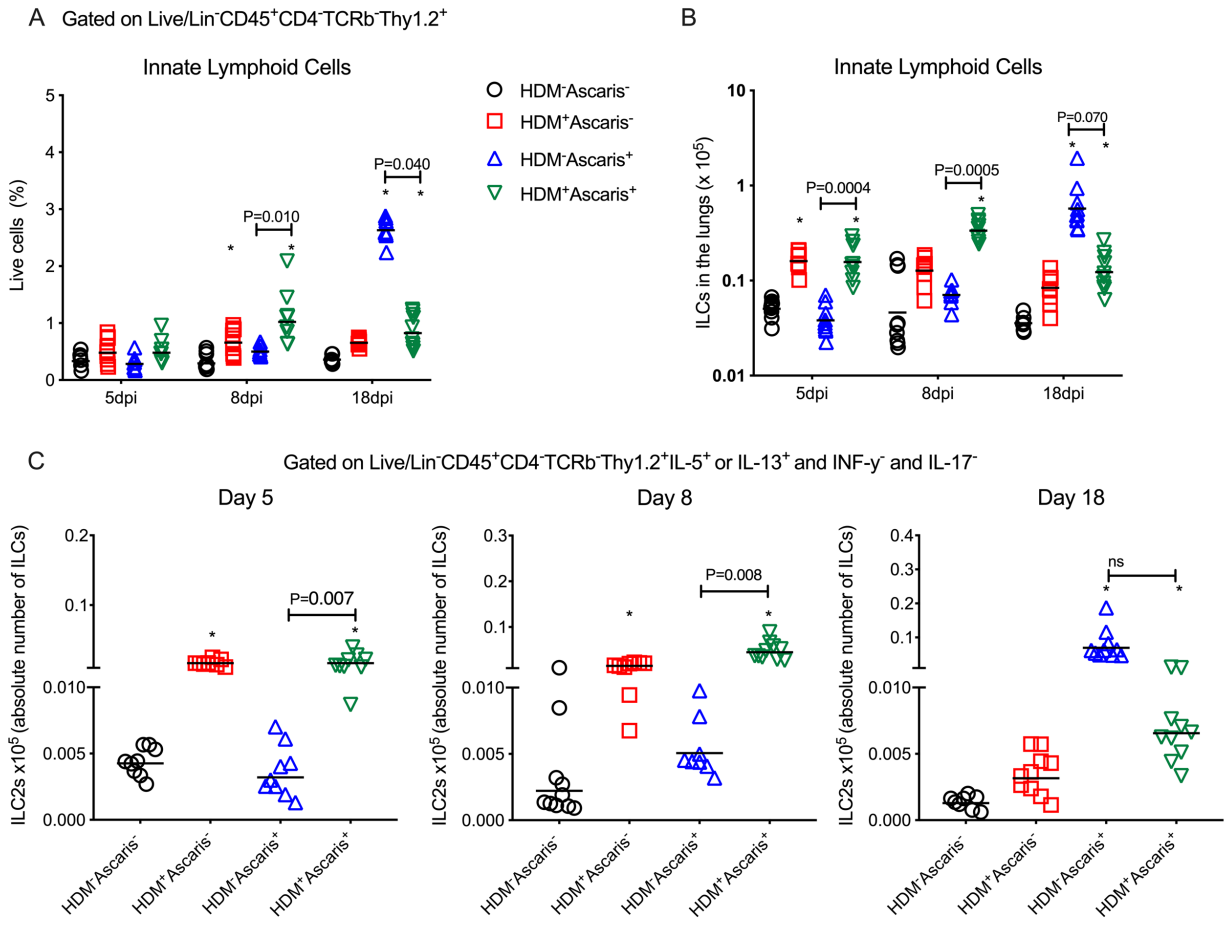



**Figure S2: The profile of cytokines and cytokines receptors in pre-allergic animals followed or not by *Ascaris* infection.** Levels of IL-6(A), IL-10(B), IL-13Ra2(C), IL-1b(D), TNF-a(E) and IFN-y(F) in the lung homogenates of HDM$^-$*Ascaris*$^-$ (O), HDM$^+$*Ascaris*$^-$(□), HDM$^-$*Ascaris*$^+$ (Δ) and HDM$^+$*Ascaris*$^+$ (∇) Balb/c mice at different time points: at day 5 (n=9 mice/group), day 8 (n=10 mice/group) and day 18 (n=10 mice/group). Each symbol represents a single mouse and the horizontal bars are the geometric means. P values are indicated in each graph. Statistical differences were considered when P<0.05 by the Kruskal-Wallis test followed by the Dunn's Multiple Comparison Test and were used for all comparisons, with focus to the differences between HDM$^-$Ascaris$^+$ and HDM$^+$Ascaris$^+$.; * means significantly different (p<0.05) from naïve (HDM$^-$Ascaris$^-$) group.




**FigureS3: Innate lymphoid cells type 2 in the lungs of in pre-allergic animals followed or not by *Ascaris* infection at different time points.** Frequency (A) and absolute numbers (B) of total innate lymphoid cells (ILCs) gated as $CD45^{+}Lin^{-}CD4^{-}TCRb^{-}Thy.1.2^{+}$, as well as, the absolute numbers of ILC2s subsets, based on the expression of the signature cytokines IL-5 or IL-13, after PMA/Ionomycin stimulation, in the different groups at day 5 (n=9 mice/group), day 8 (n=10 mice/group) and day 18 (n=10 mice/group).(C). Each symbol represents a single mouse and the horizontal bars are the GMs. Net frequency of ILC2s cells was calculated by subtracting the baseline frequency (non-stimulated) from the frequency following stimulation with PMA/ionomycin. P values are indicated in each graph. Statistical differences were considered when $P<0.05$ by the Kruskal-Wallis test followed by the Dunn's Multiple Comparison Test and were used for all comparisons, with focus to the differences between $HDM^{-}Ascaris^{+}$ and $HDM^{+}Ascaris^{+}$.; * means significantly different ($p<0.05$) from naïve ($HDM^{-}Ascaris^{-}$) group.

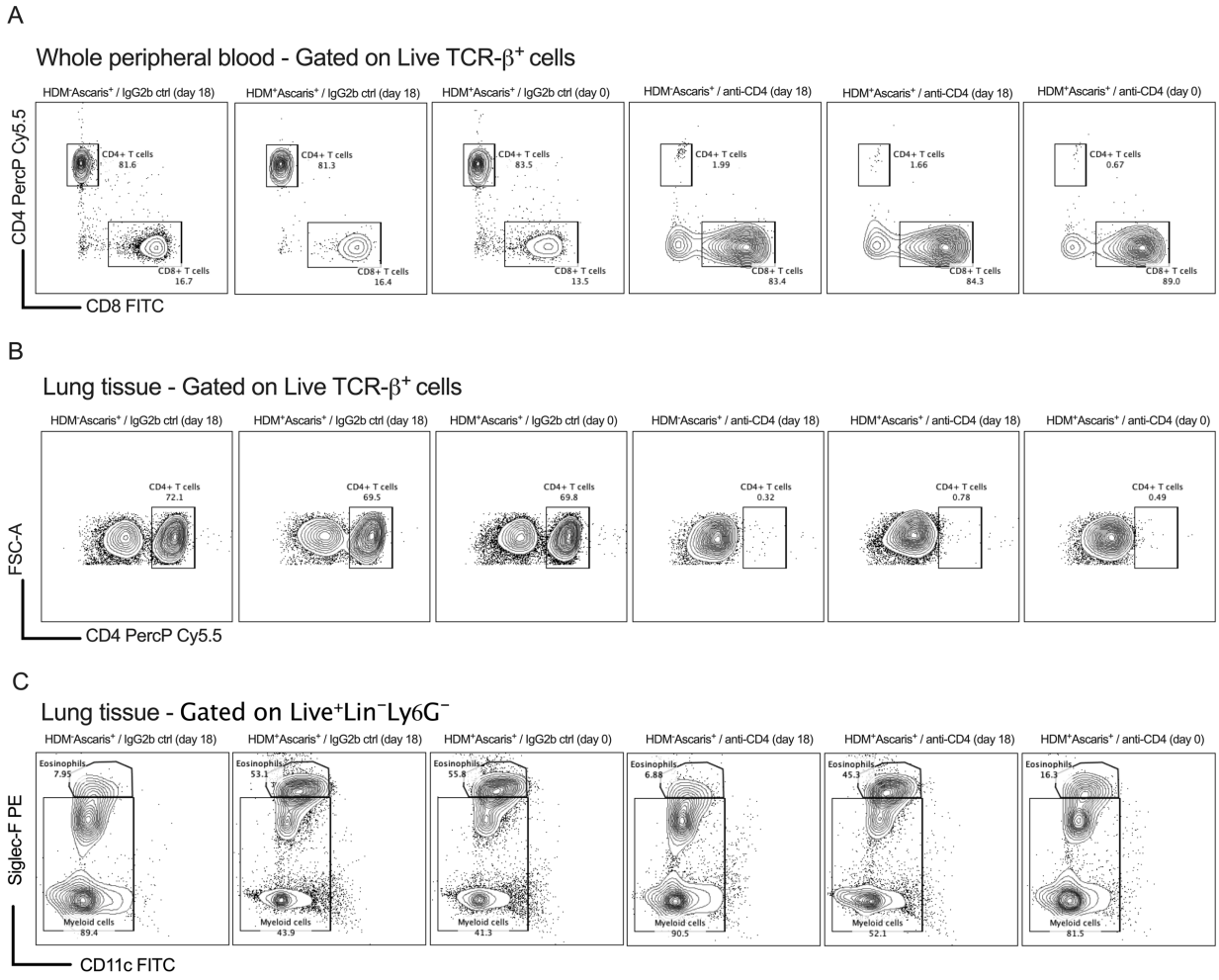



**Figure S4: Depletion check for CD4 T cells.** (A) Representative flow cytometry dot plots showing the frequency of CD4 and CD8 cells gated on TCR-b$^+$ lymphocytes in the whole blood of HDM$^-$Ascaris$^+$ (n=6) and HDM$^+$Ascaris+ (n=6) mice treated with isotype control IgG2b or anti-CD4. (B) Representative flow cytometry dot plots on frequency of CD4 cells gated on TCR-b$^+$ lymphocytes in the lung tissue of HDM$^-$Ascaris$^+$ (n=6) and HDM$^+$Ascaris+ (n=6) mice, treated with isotype control IgG2b or anti-CD4. (C) Representative flow cytometry dot plots on the frequency of eosinophils in the lung tissue of HDM-Ascaris+ (n=6) and HDM+Ascaris+ (n=6) mice, treated with isotype control IgG2b or anti-CD4.