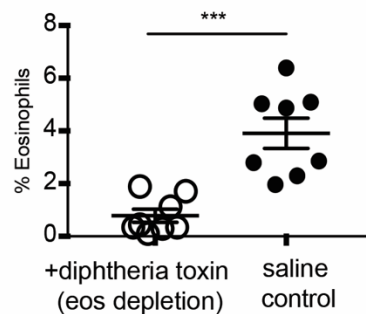
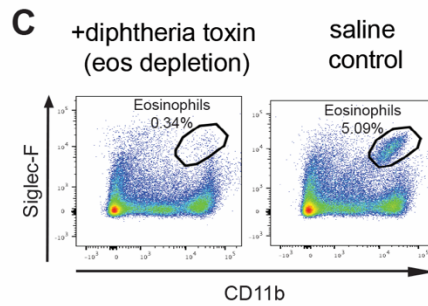
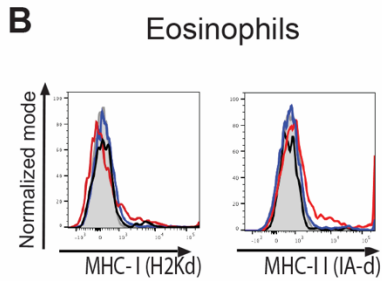
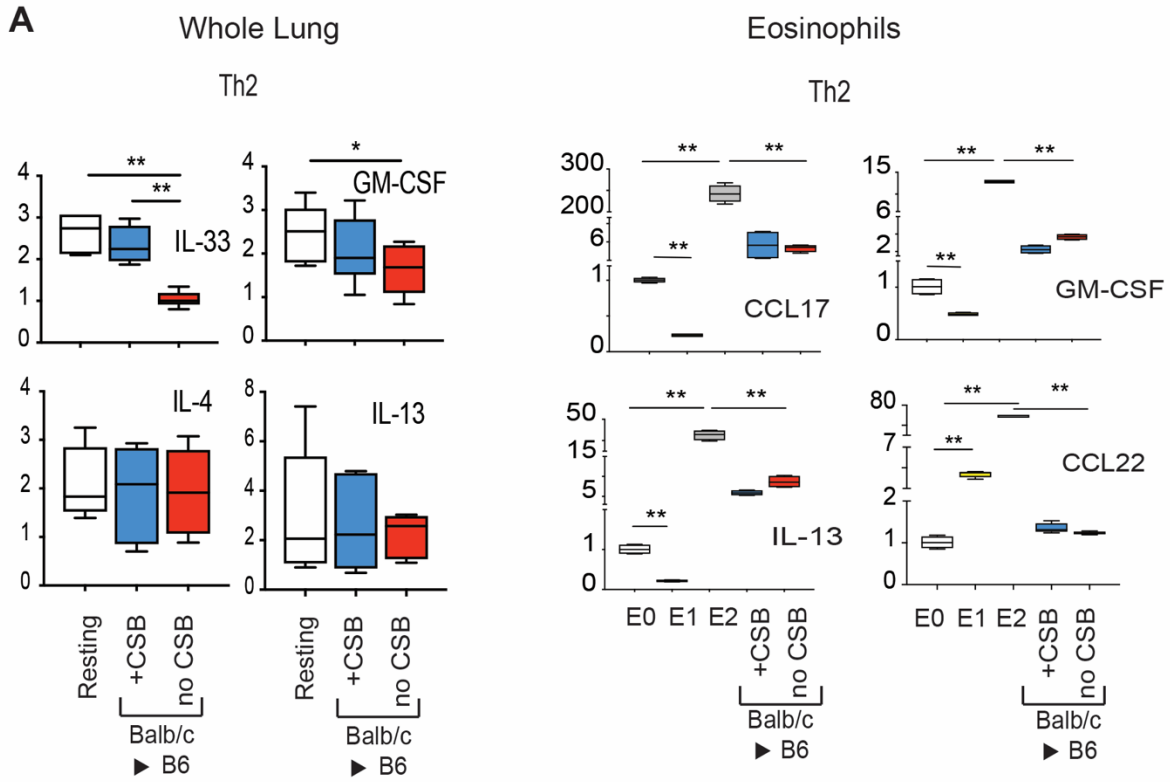
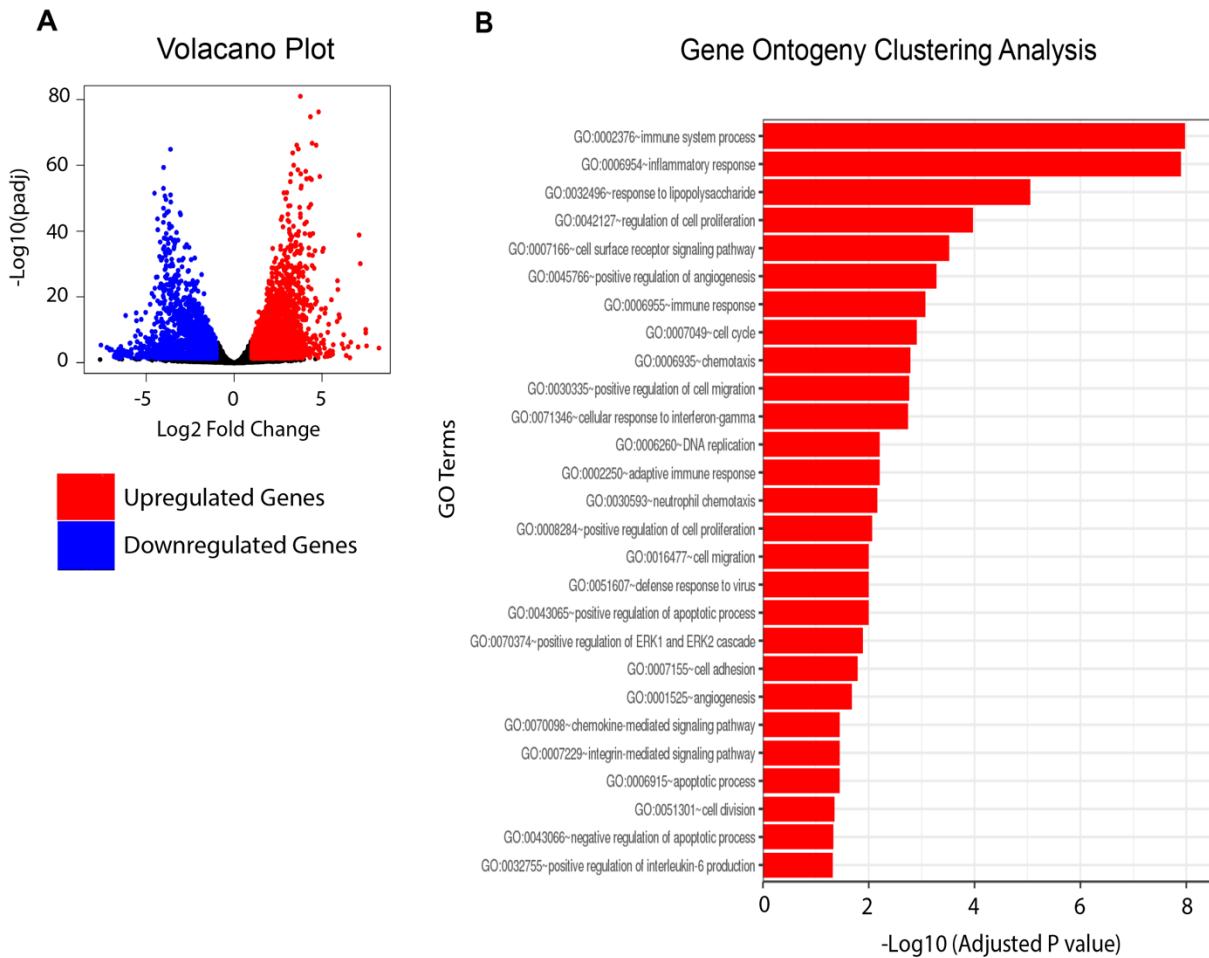


Supplemental Figure 1



Supplemental Figure 1: (A) Seven days after transplantation of Balb/c lung allograft to B6 recipient with or without CSB immunosuppression the whole lung allograft (left) or flow cytometrically sorted lung-resident eosinophils (right) were phenotyped for Th1 or Th2 polarization using established markers. Comparison was made to E0 resting blood resident eosinophils (white) or eosinophils polarized to the E1 (Th1) phenotype by overnight exposure to IFN- γ and TNF- α (yellow) or E2 (Th2) phenotype by overnight exposure to IL-33, IL-4 and GM-CSF (grey). Representative of 4-6 transplants per group with Th1 analysis presented in Figure 1. Representative of 4-6 transplants per group. (B) Flow cytometric analysis of lung resident eosinophils from Balb/c \rightarrow B6 lung grafts for donor-specific MHC I (H2K^d) and MHC II (IA^d). Representative of 3-5 separate transplants. (C) Representative lung digest (top) and quantitative analysis of iPHIL mouse treated with saline (right sided panel) or DT (left sided panel) for flow cytometric quantification of eosinophils.

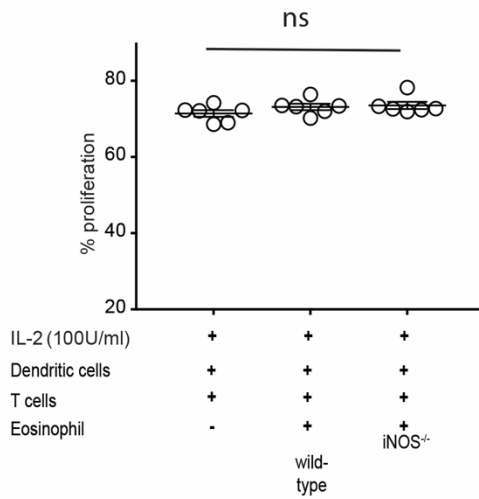
Supplemental Figure 2



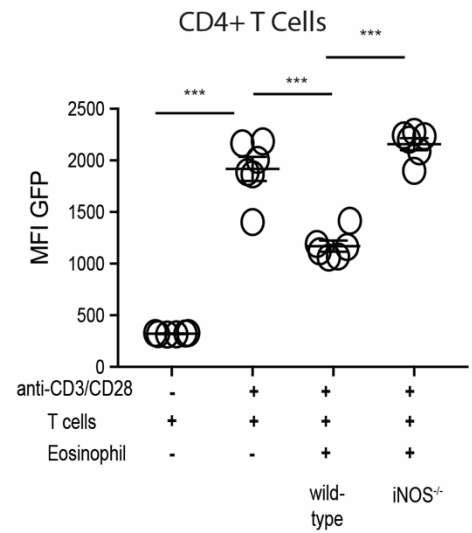
Supplemental Figure 2: (A) Volcano plot demonstrating the 2956 genes upregulated and the 2360 genes downregulated in CD8⁺ T cells from eosinophil deficient compared to sufficient lung grafts. (B) Ontogeny cluster analysis of the gene expression pattern of CD8⁺ T cells from eosinophil deficient compared to eosinophil sufficient lung grafts.

Supplemental Figure 4

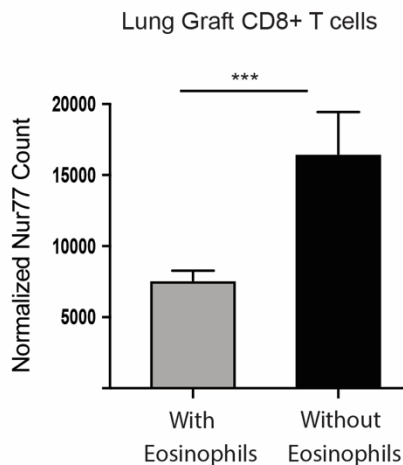
A



B

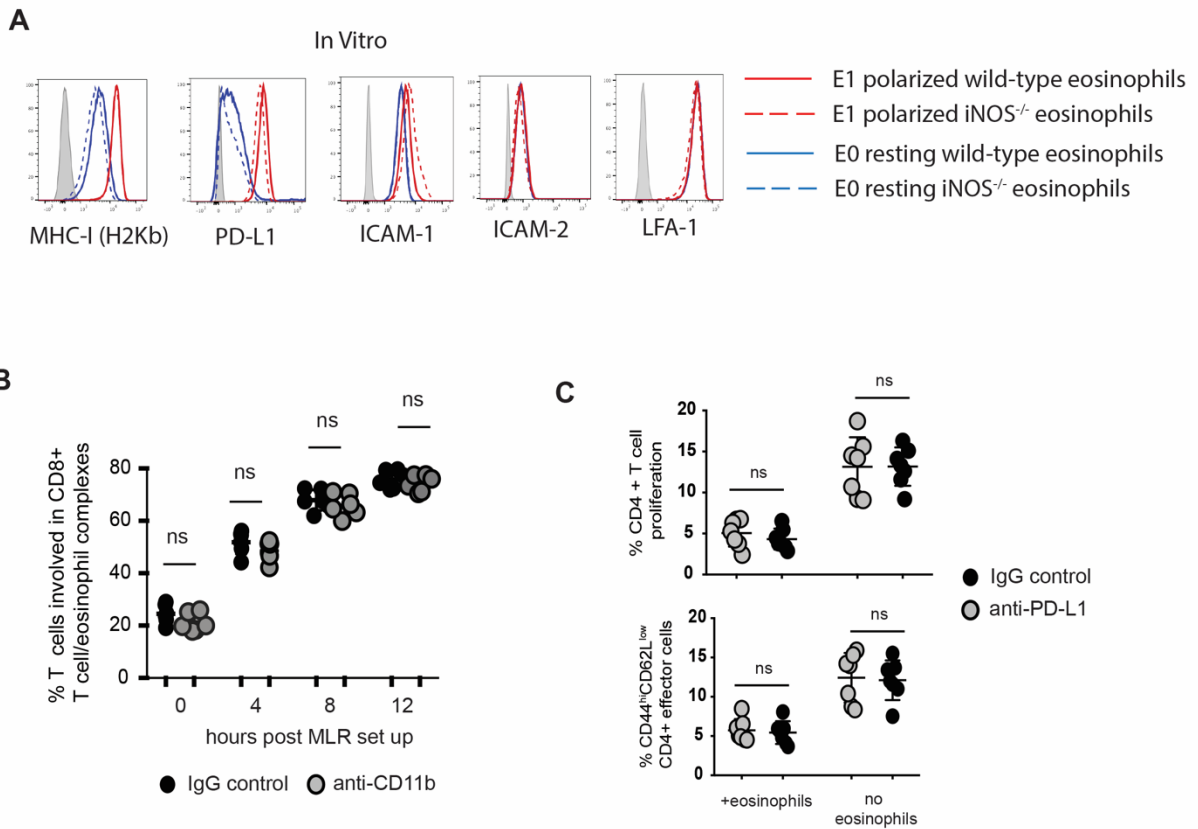


C



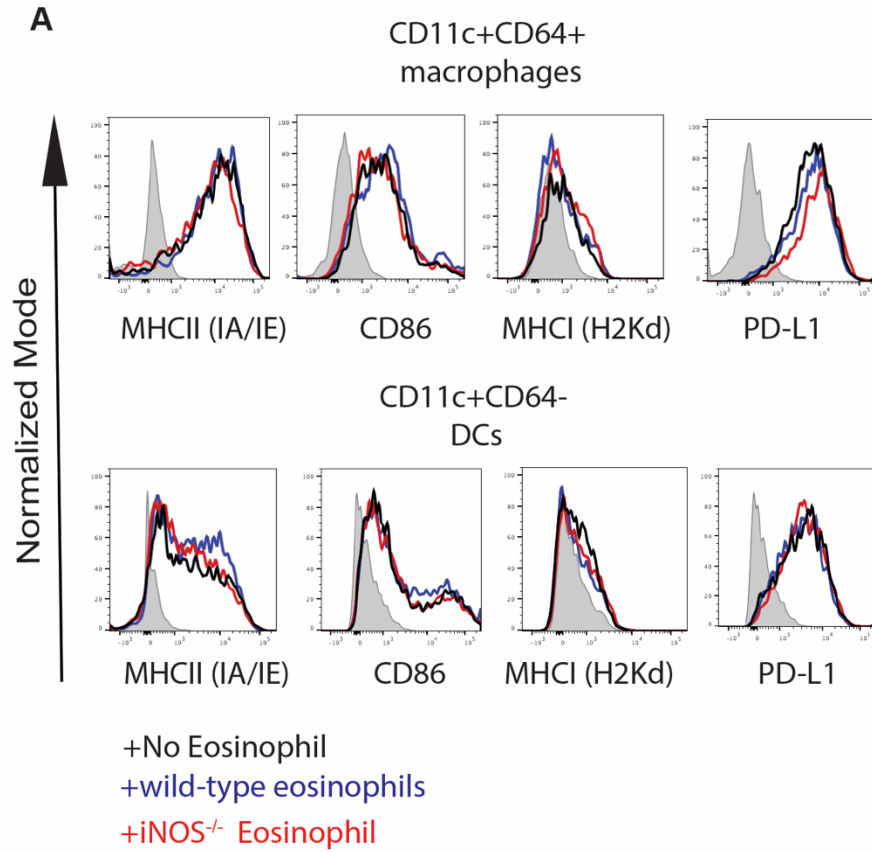
Supplemental Figure 4: (A) Proliferation of CD8⁺ T cells stimulated by Balb/c dendritic cells in a co-culture with a 2:1 ratio of eosinophils and 100U/ml of IL-2. (B) GFP expression as a gauge of Nur77/TCR stimulation in CD4⁺ T cells after 36 hours of co-culture with no, wild-type, or iNOS^{-/-} eosinophils. All statistics performed by *Mann Whitney U test*. ns $p > 0.05$ *** $p < 0.001$. (C) Transcript level of Nur77 in CD8⁺ T cells from day 7 Balb/c to B6 lung allografts in eosinophil deficient or eosinophil sufficient microenvironment, determined by RNAseq. $p < 0.00001$; adj. $p < 0.001$.

Supplemental Figure 5



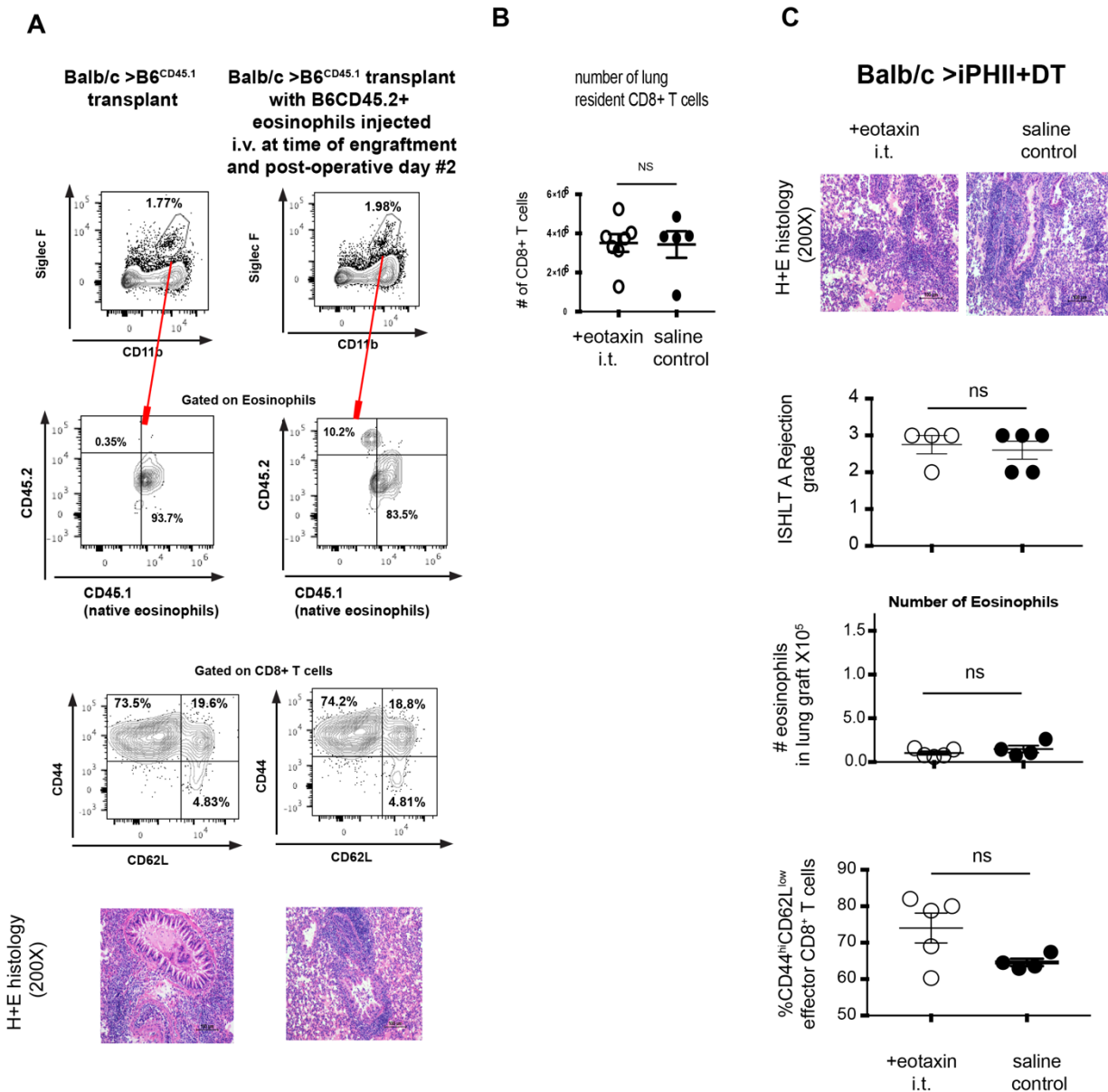
Supplemental Figure 5: (A) MHC class I (MHC-I), PD-L1, ICAM-1, ICAM-2 and LFA-1 expression in wild-type and iNOS^{-/-} eosinophils before (E0) and after (E1) polarization in vitro. (B) CD8⁺ T cell-eosinophil interactions in the presence of CD11b blockade during 16 hours of co-culture in vitro as determined by live confocal microscopy. (C) CD4⁺ T cell proliferation and effector differentiation in the presence or absence of PD-1 blockade in in vitro MLRs.

Supplemental Figure 6



Supplemental Figure 6: Phenotype of bone marrow-derived myeloid cells matured by GMCSF in the presence or absence of E1 polarized eosinophils.

Supplemental Figure 7



Supplemental Figure 7: (A) Flow cytometric and histologic analysis of Balb/c→B6^{CD45.1}+ lung transplants with (right panel) or without (left panel) adoptive transfer of 15×10^6 CD45.2+ eosinophils at the time of transplantation and on post-operative day 1. Representative of two separate transplants. (B) Balb/c lungs were transplanted into B6 recipients which were treated with an intratracheal chemokine and cytokine cocktail of eotaxin1,2 and IL-5 immediately after engraftment and on post-operative day number one. Lung grafts were evaluated flow cytometrically for number of CD8+ T cells on post-operative day seven. (C) Rejection grade and CD8+ T cell differentiation in Balb/c→DT treated iPHIL lung grafts treated with intratracheal eotaxin 1,2 and IL-5 on days 0 and 1 post engraftment. All statistics performed by unpaired t test. ns $p > 0.05$