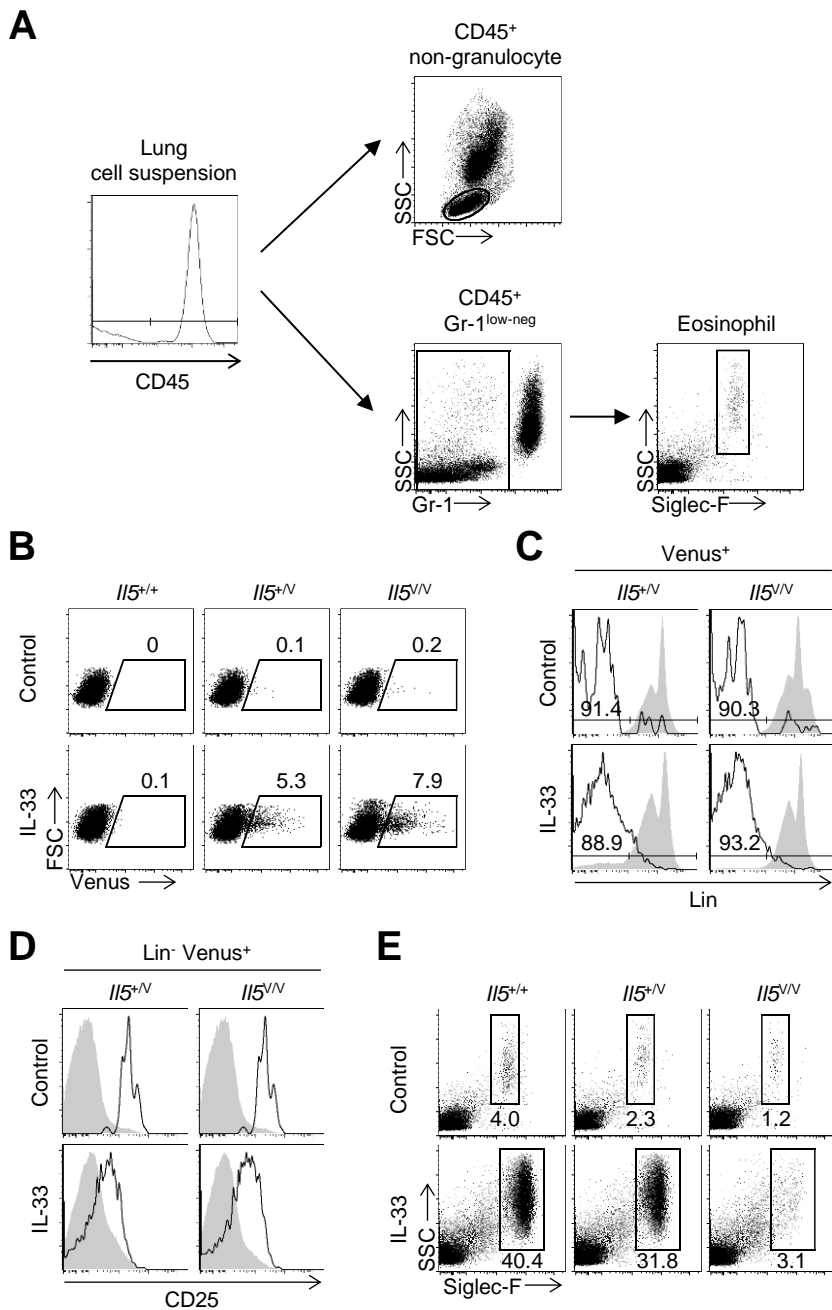
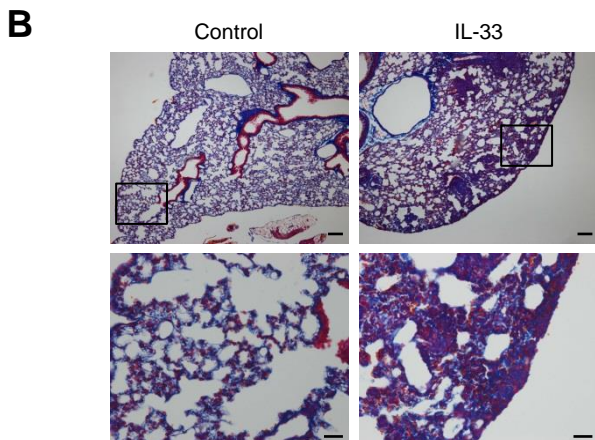
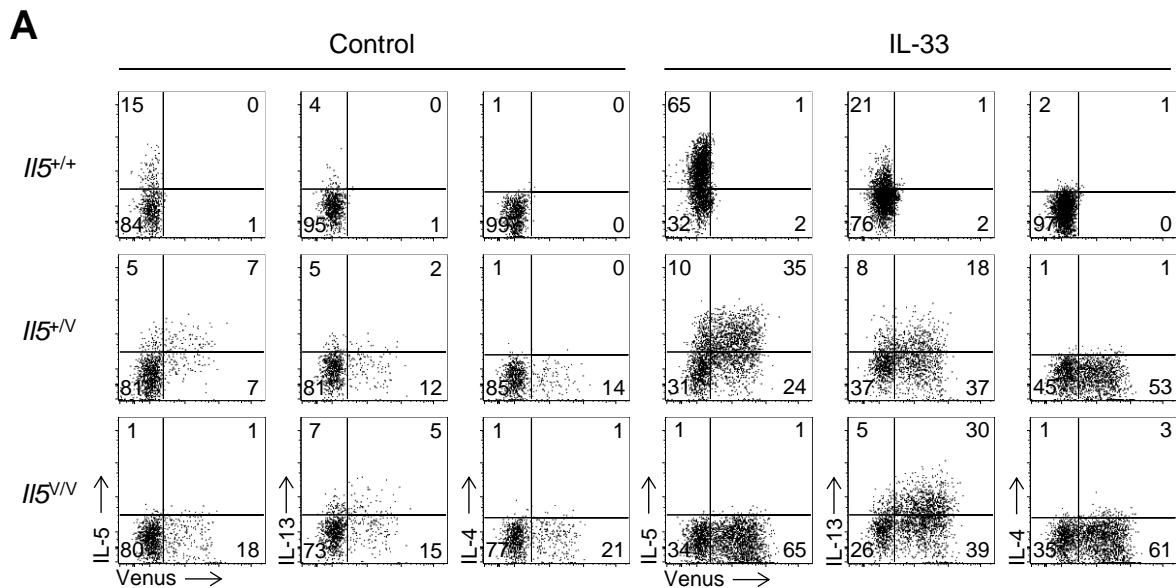


# Supplemental Figure 1



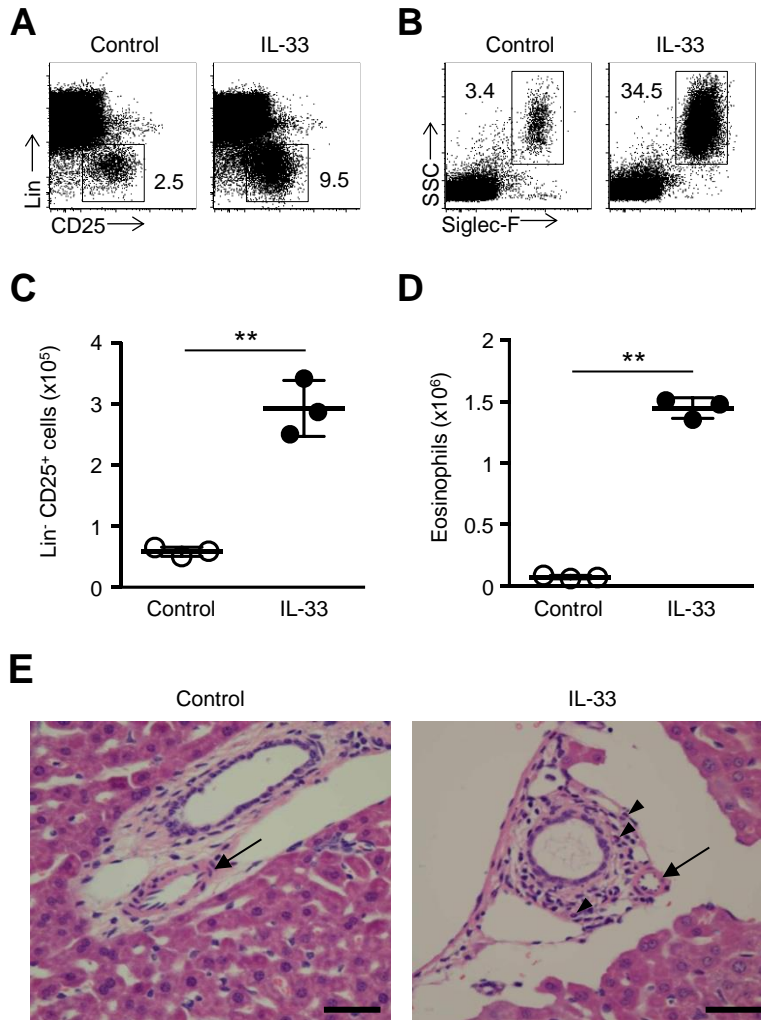
**Supplemental Figure 1. Flow cytometric analysis of lung cells.** (A) Lung cells that were gated on CD45<sup>+</sup> cells and side scatter (SSC)<sup>low</sup> cells (circled in the upper panel) were analyzed as non-granulocyte. CD45<sup>+</sup> Gr-1<sup>low-neg</sup> cells (squared in the lower left panel) were gated on SSC<sup>high</sup> and Siglec-F<sup>+</sup> cells, and these cells were analyzed as eosinophils. (B-E) Representative flow cytometric analysis of non-granulocytes or eosinophils in lungs from *I15<sup>+/+</sup>*, *I15<sup>+/N</sup>*, or *I15<sup>V/N</sup>* mice (n = 4 or 5 per each group), treated with PBS (control) or IL-33 weekly 3 times (on days 0, 7, and 14). Expression of Venus with cell size (forward scatter, FSC) on non-granulocytes is shown in (B). Expression of lineage (Lin) markers on Venus<sup>+</sup> cells derived from (B) is shown in (C). Expression of CD25 on Lin<sup>-</sup> Venus<sup>+</sup> cells derived from (C) is shown in (D). Venus<sup>+</sup> or Lin<sup>-</sup> Venus<sup>+</sup> cells are shown in open histograms and Venus<sup>-</sup> non-granulocytes are shown in gray. Representative flow cytometric analysis of eosinophils is shown in (E).

# Supplemental Figure 2



**Supplemental Figure 2. Effect of IL-33 treatment on IL-13 expression and fibrosis.** (A) Th2 cytokine expression of lung lineage (Lin)<sup>-</sup> cells. Lung cells from *Il5<sup>+/+</sup>*, *Il5<sup>+/-</sup>*, or *Il5<sup>-/-</sup>* mice, treated with PBS (control) or IL-33 on days 0, 7, and 14 (*n* = 3), were cultured with PMA (10 ng/mL) and ionomycin (1 μM) for 12 h in the presence of GolgiStop (BD Biosciences). Intracellular staining with anti-mouse IL-4 (BD Biosciences, Catalog 562044), IL-5 (BD Biosciences, Catalog 56209) and IL-13 (eBioscience, Catalog 12-7133-41) monoclonal antibodies was performed using a fixation/permeabilization kit (eBioscience). CD45<sup>+</sup> Lin<sup>-</sup> cells were gated and are shown. Representative flow cytometric data of 3 independent experiments are shown. (B) Azan staining of representative lung sections from WT mice that were treated with PBS or IL-33 weekly 3 times on days 0, 7, and 14 (*n* = 3 per each group). Lower panels show high-power field of the positions enclosed by squares in upper panels. Scale bars indicate 200 μm in the upper panels and 50 μm in the lower panels.

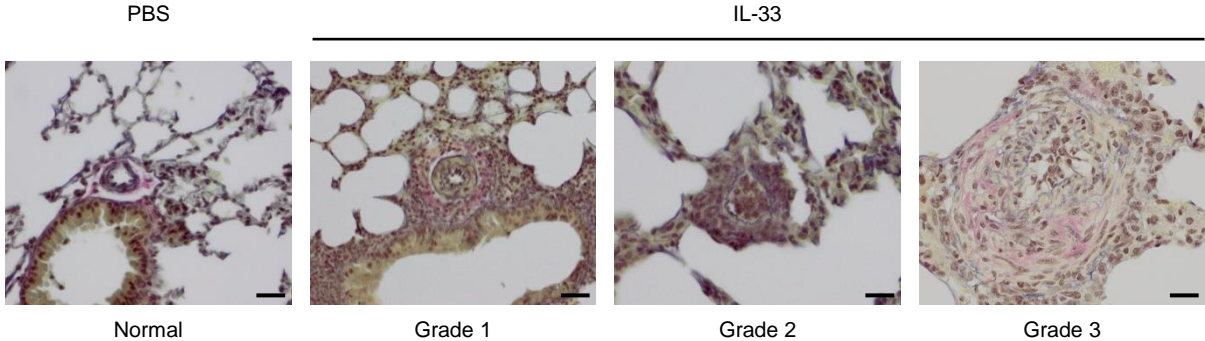
# Supplemental Figure 3



## Supplemental Figure 3. Effect of IL-33 treatment on cell populations and arteries in the liver.

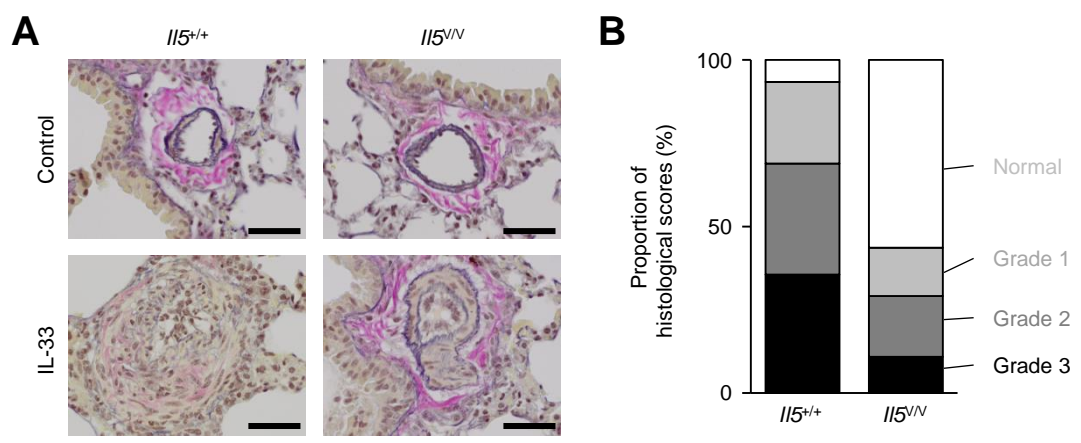
(**A** and **B**) Representative flow cytometric analysis of non-granulocytes (**A**), or eosinophils (**B**) in the liver from WT mice ( $n = 3$  per each group), treated with PBS (control) or IL-33 weekly 3 times (on days 0, 7, and 14). Lin indicates lineage. (**C** and **D**) Numbers of Lin<sup>-</sup> CD25<sup>+</sup> cells (**C**), or eosinophils (**D**). Cell numbers were calculated based on the analysis from (**A**) and (**B**). Graph data are shown as means  $\pm$  SD.  $P$  values were calculated using the two-tailed Student's  $t$ -test. Asterisks indicate statistical significance (\*\*,  $P < 0.01$ ). (**E**) H&E staining of representative liver sections from WT mice that were treated with PBS or IL-33 weekly 3 times on days 0, 7, and 14 ( $n = 3$  per each group). Arrows indicate hepatic arteries. Arrowheads indicate eosinophils. Scale bars indicate 50  $\mu$ m.

# Supplemental Figure 4



**Supplemental Figure 4. Histological scores used in this study.** Extent of hypertrophy of blood vessels were quantitatively classified referring to the Heath-Edwards classification system (reference number 25). Elastica van Gieson (EVG) staining of representative section was shown. Grade 1 corresponds to hypertrophy of media; Grade 2, to hypertrophy of intima; and Grade 3, to advanced medial hypertrophy. Scale bars indicate 50  $\mu$ m.

# Supplemental Figure 5



**Supplemental Figure 5. Histological analysis of lung from mice treated with IL-33 for extended period. (A)** Elastica van Gieson (EVG) staining of representative sections from *I15<sup>+/+</sup>* or *I15<sup>V/V</sup>* mice treated with 11 weekly injections of IL-33 (n = 4 per each group). Scale bars indicate 50  $\mu$ m. **(B)** Histological scoring of arterial hypertrophy observed in *I15<sup>+/+</sup>* or *I15<sup>V/V</sup>* mice treated with 11 weekly injections of IL-33. A sample size of 45 or 55 arteries was randomly selected from IL-33-treated *I15<sup>+/+</sup>* or *I15<sup>V/V</sup>* mice, respectively, and examined.