Supplemental Data

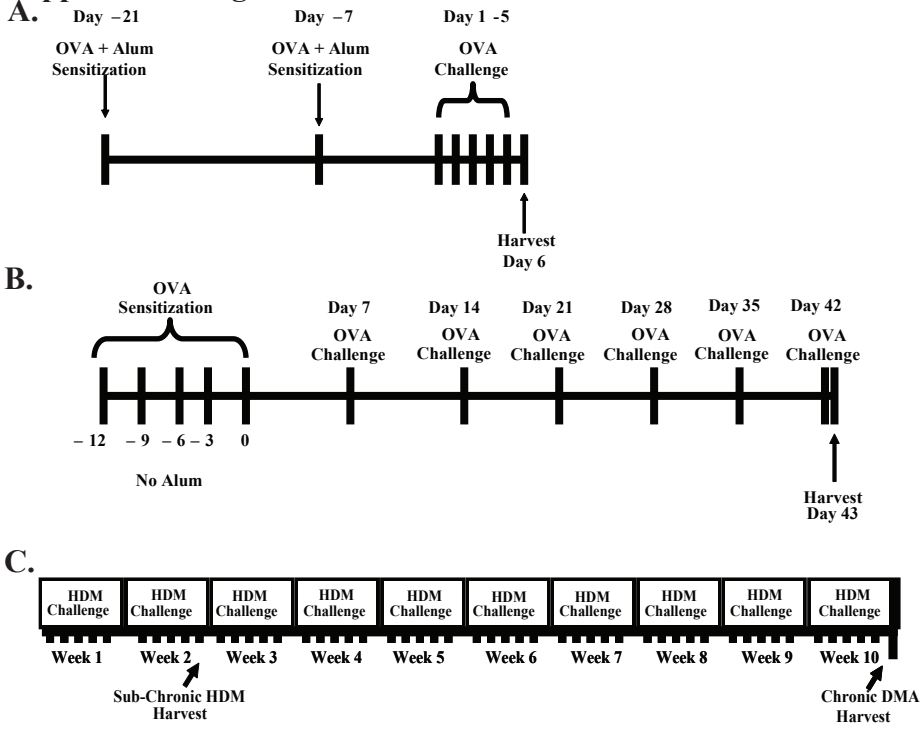
Supplemental Figure 1. Schematics representing the 4 allergic airway disease models utilized in this study. A) The OVA-alum model of acute airway inflammation. **B)** The alum free, sub-chronic OVA model of allergic airway inflammation. **C)** The sub-chronic (2 week) and Chronic (10 week) HDM model of allergic airway inflammation.

Supplemental Figure 2. OVA mediated airway inflammation in a sub-chronic, alum free model of allergic airway disease. Mice were subjected to one of the following conditions: 1) PBS/PBS or vehicle challenge (mice received i.p. injections of PBS and i.n. challenges with PBS); 2) OVA/PBS (mice were sensitized with OVA and challenged with saline i.n.); 3) PBS/OVA (mice were sensitized with PBS and i.n. challenged with OVA); 4) OVA/OVA wild type (mice were sensitized with OVA and i.n. challenged with OVA). **A)** BALF cellularity was evaluated. **B)** Lung histopathology was evaluated and scored utilizing a semi-quantitative scoring system. **C)** Serum levels of total IgE and **D)** BALF levels of IL-33 were evaluated by ELISA, respectively. Vehicle, n=6; wild type PBS/OVA, n=3; wild type OVA/PBS, n=3; wild type OVA/OVA, n=6. Data are representative of 4 individual experiments.

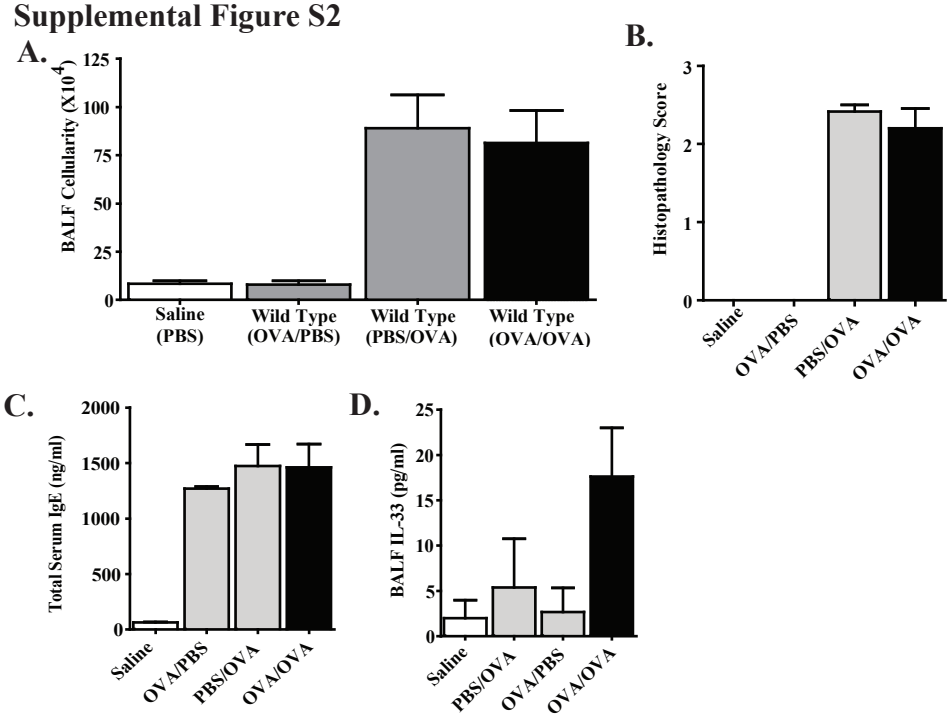
Supplemental Figure 3. Acute HDM induced airway inflammation in *de novo* generated *Nlrp3*$^{-/-}$ mice. *De novo Nlrp3*$^{-/-}$ mice were generated by disrupting the entire Nlrp3 gene, including all exons and introns, with a selectable marker gene using a standard replacer type targeting vector. The mutation was maintained on the 129S6 genetic background. Comparisons of co-isogenic mice, revealed no difference in the development of allergic airway disease, including exposure to acute HDM antigen. **A)** Total BALF cellularity was evaluated. **B)** The

cellular composition of the BALF was evaluated via morphology following differential staining. **C)** BALF levels of IL-13 and **D)** serum levels of total IgE were evaluated by ELISA, respectively. Wild Type, n=33; *Nlrp3*$^{-/-}$, n=27.

Supplemental Figure S1.



Supplemental Figure S2



Supplemental Figure S3.