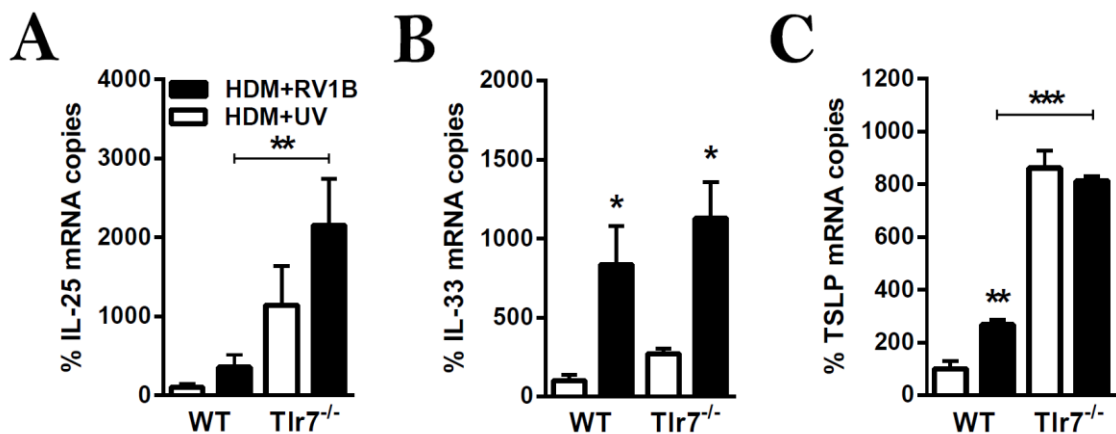
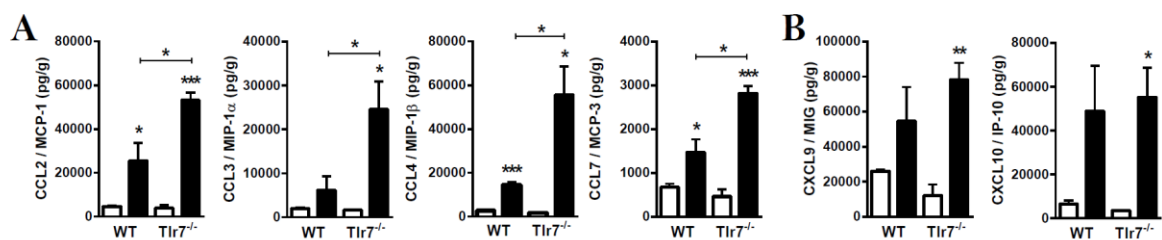


Supplementary Figure 1. Expression of T_H2 -priming epithelial cytokines IL-25 and TSLP but not IL-33 are higher in exacerbated TLR7-deficient mice. Total RNA was extracted from lower airway tissue of mice following RV-induced exacerbation and expression of IL-25 (A), IL-33 (B), and thymic stromal lymphopoiectin (TSLP) (C) assessed by qRT-PCR. Copy numbers are displayed as % compared to WT HDM+UV group. Results are Mean \pm SEM (n=3-6 mice per group). *, $P < 0.05$, **, $P < 0.01$, ***, $P < 0.001$ as compared to strain-matched HDM+UV group or otherwise indicated as determined by students t-test.



Supplementary Figure 2. TLR7-deficiency leads to heightened local production of chemokines upon RV-induced exacerbation. Lung protein levels of CCL2/MCP1, CCL3/MIP1 α and CCL4/MIP1 β (A), as well as CXCL9/MIG and CXCL10/IP10 (B) was quantified by bead-based Multiplex Immunoassay in clarified tissue homogenates. (A) CCL7/MCP3 was quantified from the same tissue by sandwich ELISA. Results are Mean \pm SEM (n=3-4 mice per group) with all protein concentrations normalised to lung weight. *, $P < 0.05$, **, $P < 0.01$, ***, $P < 0.001$ as compared to strain-matched HDM+UV group or otherwise indicated as determined by students t-test.



Supplementary Figure 3. TLR7-deficiency does not alter IL-13 production or number of PAS-positive cells following exacerbation. Levels of IL-13 protein and number of PAS⁺ epithelial cells per 100 μm^2 of lung tissue, assessed by ELISA and histological analysis respectively. Data from experiments displayed in Figure 1 (A), Figure 2 (B), and Figure 3 (C). Results are Mean \pm SEM (n=3-6 mice per group). *, $P < 0.05$, **, $P < 0.01$, ***, $P < 0.001$ as compared to strain-matched HDM+UV group or otherwise indicated as determined by students t-test.

