

Supplemental Figure 1. Effects of sensitization with alum on systemic

eosinophil numbers. Mice were sensitized with PBS or OVA admixed with alum followed by endotracheal delivery of OVA or PBS vehicle control following the timeline described in Fig 1a. Eosinophils were quantified from bone marrow (**a**) or spleen (**b**) preparations by flow cytometry and expressed as percentage of CD45⁺ leukocytes. In (**c**), eosinophils were quantified from jejunum tissue sections and expressed as eosinophils per crypt:villus unit. **, p<0.005 compared to negative control (PBS sensitization, PBS challenge).

a Gut Challenge



Supplemental Figure 2. Distribution of remote allergen-elicited intestinal eosinophils. Intestinal eosinophils were quantified from jejunum tissue sections in sham- or OVA-sensitized mice following PBS or OVA challenge to the lungs (a), gut (b) or skin (c). Eosinophils are expressed as numbers of eosinophils localized within lamina propria surrounding crypts versus numbers of eosinophils within lamina propria extending into villi. *, p<0.05; **, p<0.005; ***, p<0.0005. P-values determined by student's paired t-tests.



Supplemental Figure 3. Comparison of intestinal jejunal and ileal eosinophil counts. Mice were sensitized and challenged via endotracheal spray as in Fig 1a, and eosinophils quantified from jejunal and ileal sections. **, p<0.005; ***, p<0.0005.



Supplemental Figure 4. Dye tracing studies to confirm allergen

delivery. (**a**,**b**) Anesthetized mice were intubated to deliver antigen solution directly into lower airways. (**b**) Antigen was replaced with India ink dye solution to visualize solution disbursement *in situ*. (**c**) Alert mice received 250 μ L of India ink dye solution by oral gavage 20 minutes before euthanasia. Analysis of esophagus and stomach confirm dye solution was confined to the stomach.



Supplemental Figure 5. Eosinophil quantification by fast green and neutral red staining versus α MBP staining. Serial jejunal sections from sham control or OVA skin challenged mice were stained with fast green and neutral red (FG:NR) or α MBP antibodies and eosinophil counts.