

Supplementary Data

Table S1. The scoring table of anaphylactic symptoms.

Score	Symptoms
0	No symptoms
1	Scratching nose and mouth
2	Swelling around the eyes and mouth; reduced activity; high breathing rate
3	Shortness of breath; blue rash around the mouth and tail; higher breathing rate
4	No activity after stimulation; shivering and muscle contractions
5	Death by shock

Figures and Figure Legends

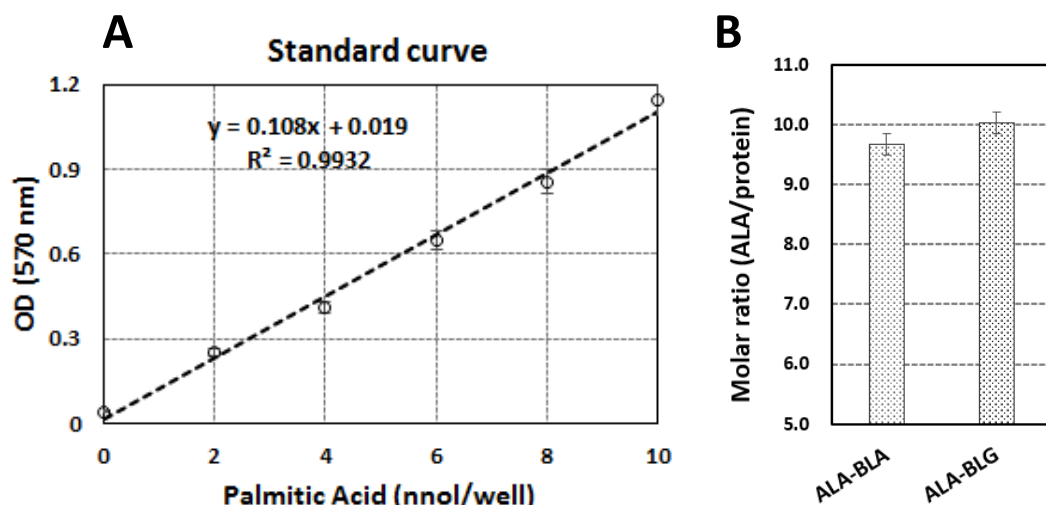


FIGURE S1. (A) The palmitic acid standard curve according to the Free Fatty Acid Quantification Kit protocol. Briefly, the samples were added to a 96-well plate in several dilutions. In parallel, a standard curve was prepared with known amounts of palmitic acid. FA assay buffer was added to each well to reach a final volume of 50 μ L. Acyl-CoA synthetase (2 μ L) was then added to each well to convert FA to their CoA derivatives, followed by incubation at 37°C for 30 min. A solution comprising enzymes, an enhancer, and a FA probe was added to each well to generate the color. After 30 min of incubation at 37°C in the dark, the absorbance was detected at 570 nm using an ELISA plate reader (Model 1860, Bio-Rad, USA). (B) The quantity of ALA remaining in ALA-BLA and ALA-BLG complexes after dialysis. Results are represented as means \pm SEM (n=2).

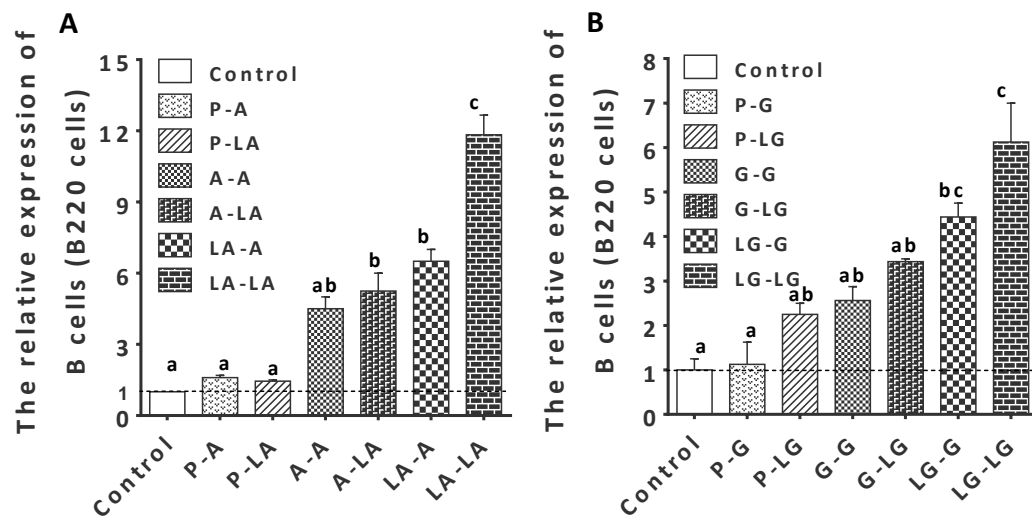


FIGURE S2. The relative expression of B220 cells from the mouse peripheral blood at 40 min after challenge. Values are expressed as means \pm SEM (n=2). Different letters indicate statistically significant differences.

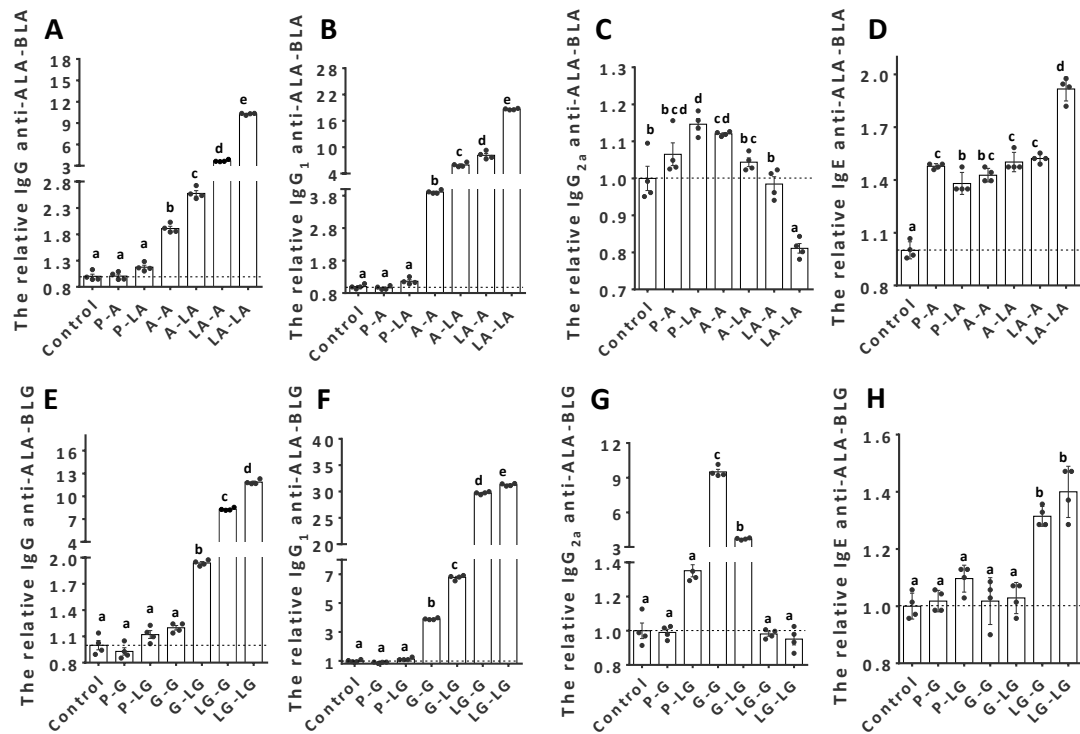


FIGURE S3. The relative antibodies levels from serum samples of mice determined by direct ELISA: ALA-BLA- and ALA-BLG-specific IgG (**A,E**), IgG₁ (**B,F**), IgG_{2a} (**C,G**), and IgE (**D,H**) levels were measured in serum of sensitized and challenged mice with BLA, ALA-BLA, BLG, or ALA-BLG, respectively. Each point represented data from an individual mouse, and values are expressed as means \pm SEM (n=4). Different letters indicate statistically significant differences.

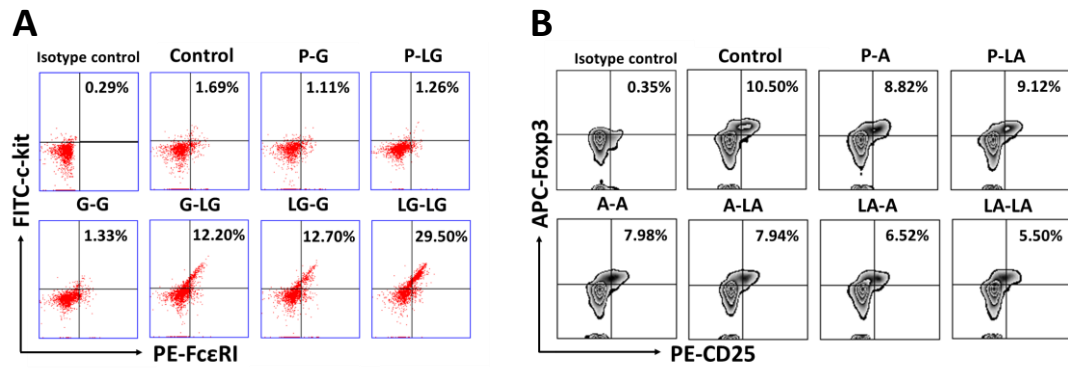


Figure S4. (A) Representative dot plots showing percentages of peritoneal FcεRI+c-kit⁺ cells in the BLG groups; (B) representative percentages of CD25⁺Foxp3⁺ cells after gating CD4⁺ cells isolated from the spleen tissue of BLA groups.

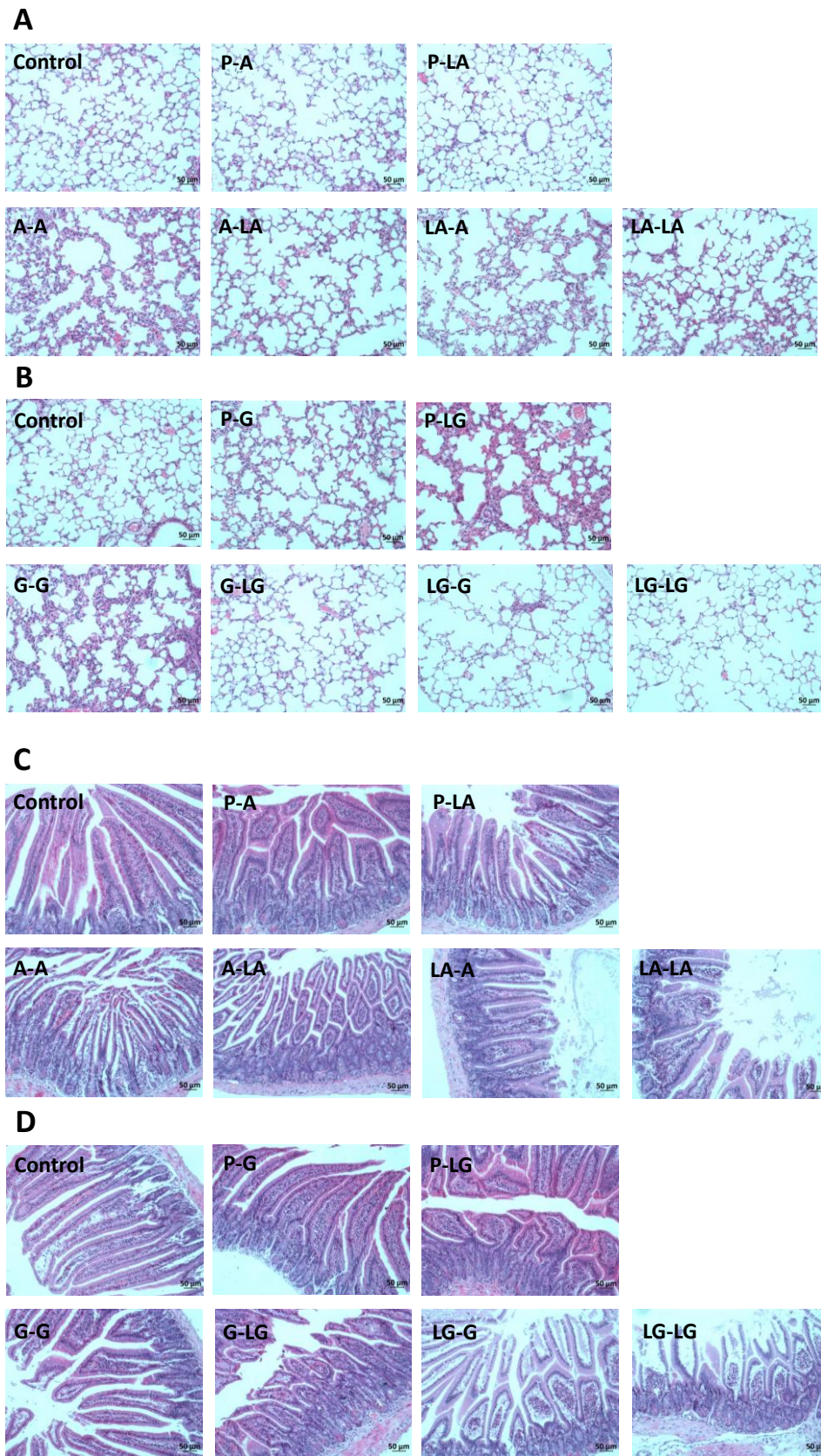


FIGURE S5. Histological sections (HE) of lung (**A,B**) and intestine (**C,D**) tissues from animals challenged by PBS, BLA, ALA–BLA, BLG, or ALA–BLG, respectively.