

Experimental Set-up: Delivered Lung Dose

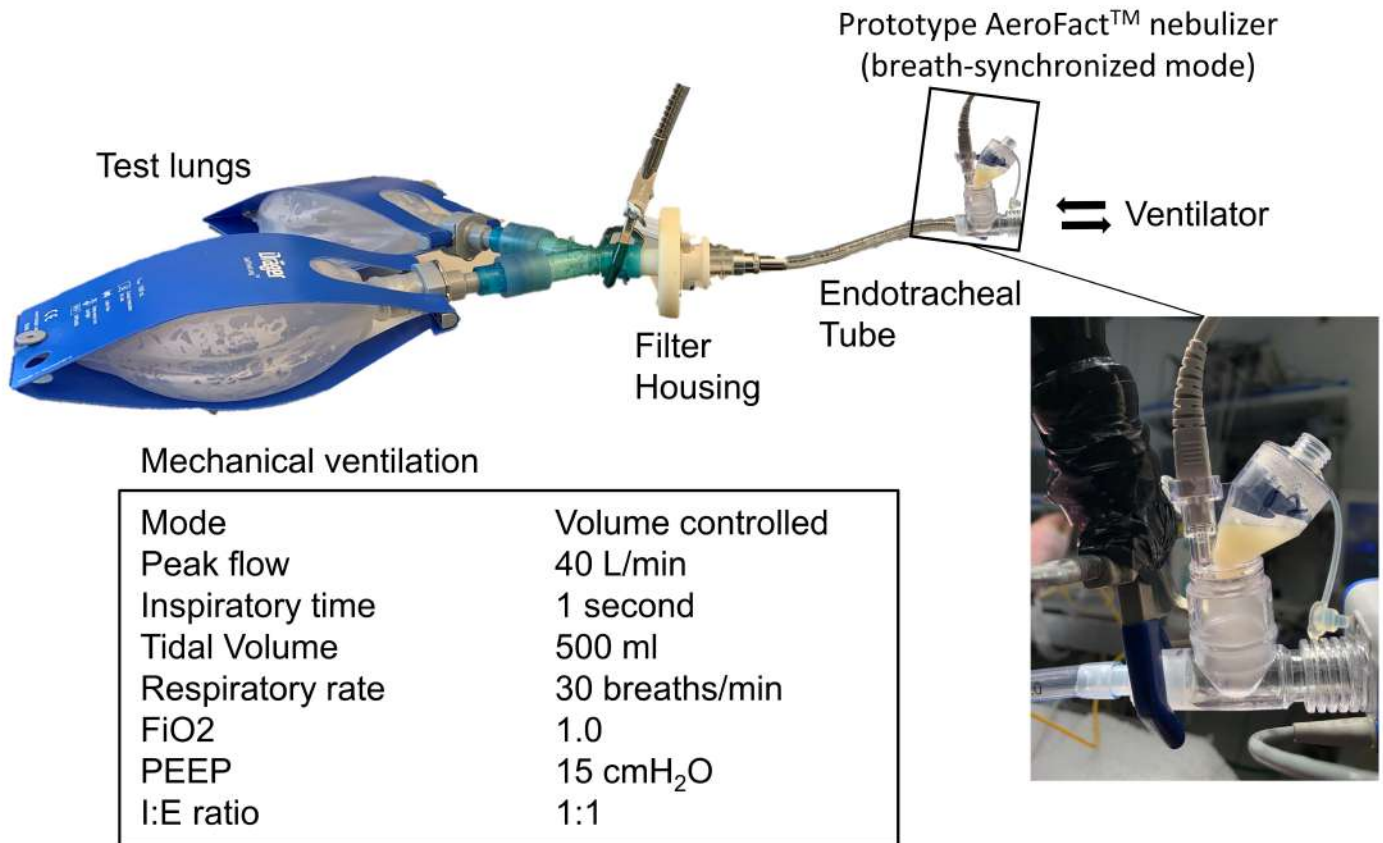


Figure S1. Experimental set-up for delivered lung dose study. Surfactant delivered dose was determined by measuring the collected amount of breath-synchronized nebulized surfactant on a filter during simulated mechanical ventilation.

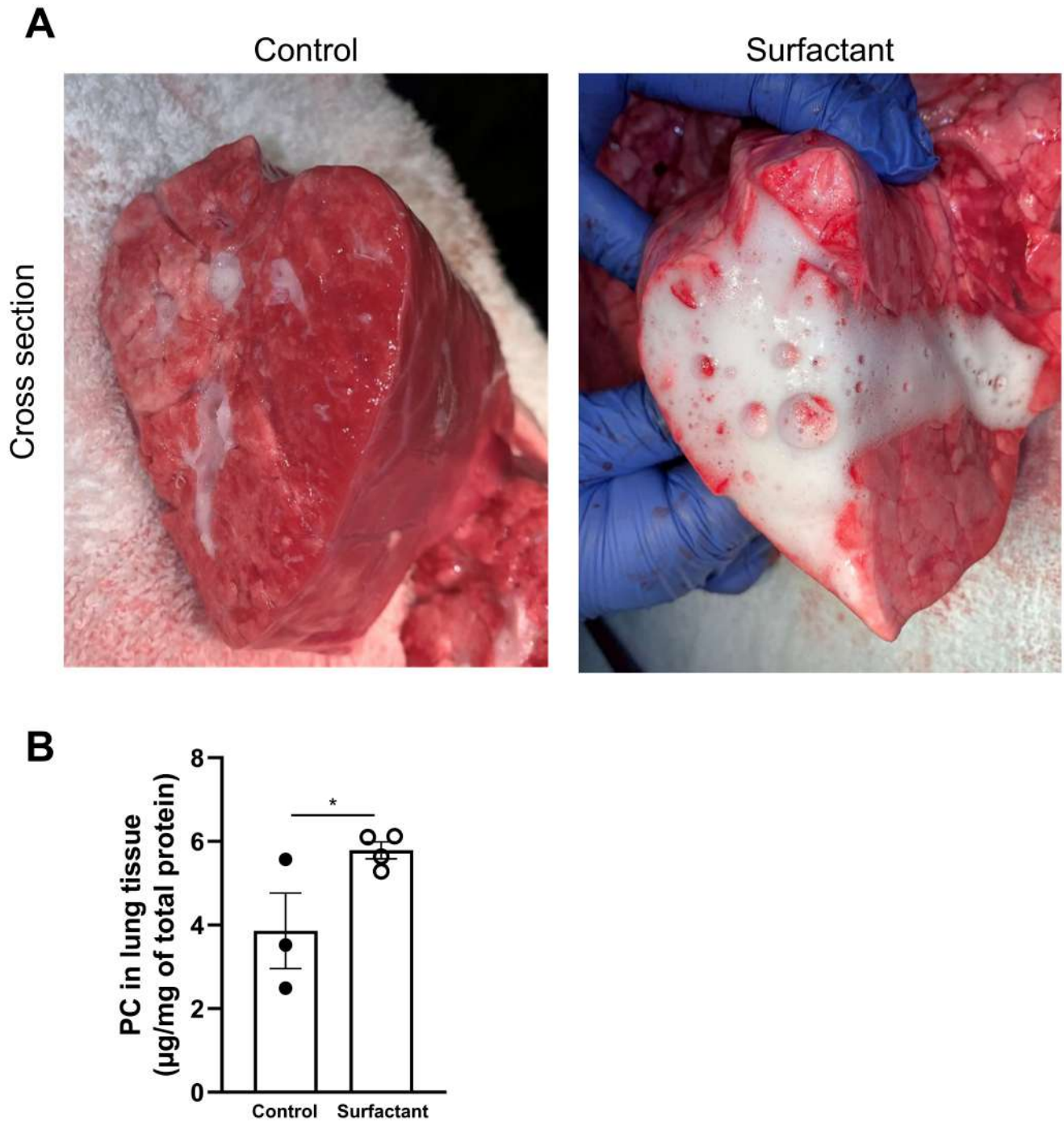


Figure S2. Macroscopic appearance of excised porcine lungs. Abundant foamy liquid is assumed to be surfactant overflow from the cut surface of lung lobe in Surfactant-treated animals that was absent in Controls (A).

Phosphatidylcholine (PC) level from lung homogenate showed greater repletion in Surfactant-treated animals than Control animals (B). Values are means \pm SEM. *, $p < 0.05$; **, $p < 0.01$ compared between 2 groups. #, $p < 0.05$ compared with 0 (at the start of the treatment) within groups.

Figure S3

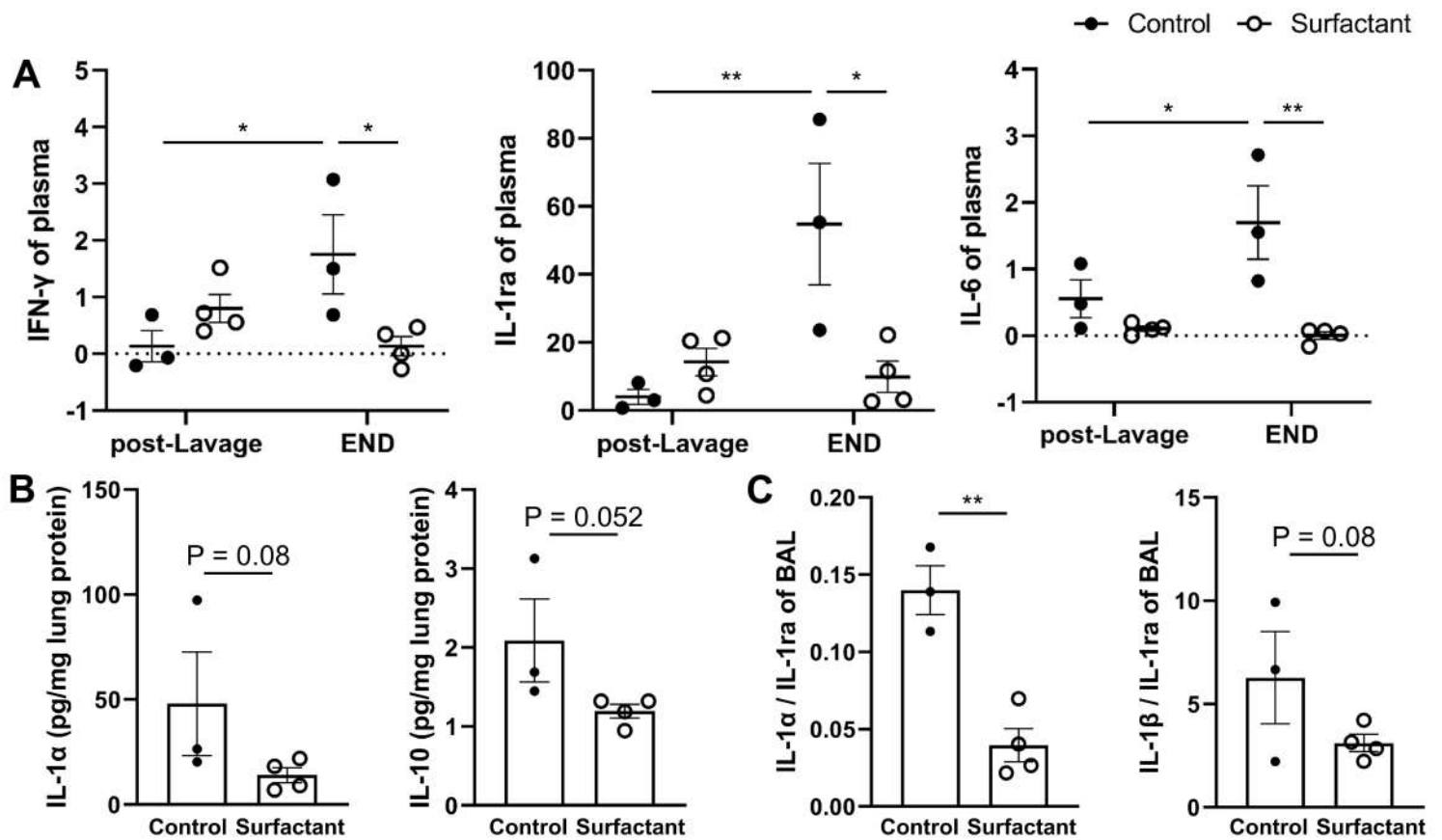


Figure S3. Cytokine levels in plasma (A), lung (B), and BALF (C). Plasma cytokine levels were not different at post-lavage before treatment. Several parameters including IFN- γ , IL-1ra and IL-6 were significantly increased in control pigs at the endpoint of protocol (4.5 hours after the start of treatment), while they were maintained within baseline level in surfactant-treated pigs. The differences of cytokine levels in lung tissue and BALF were smaller than plasma, but they were maintained at low level in surfactant-treated pigs as well as in plasma. BALF, bronchoalveolar lavage fluid; IFN- γ , interferon-gamma; IL-1ra, interleukin-1 receptor antagonist. Values are means \pm SEM. *, $p < 0.05$; **, $p < 0.01$.