

Graphical Abstract

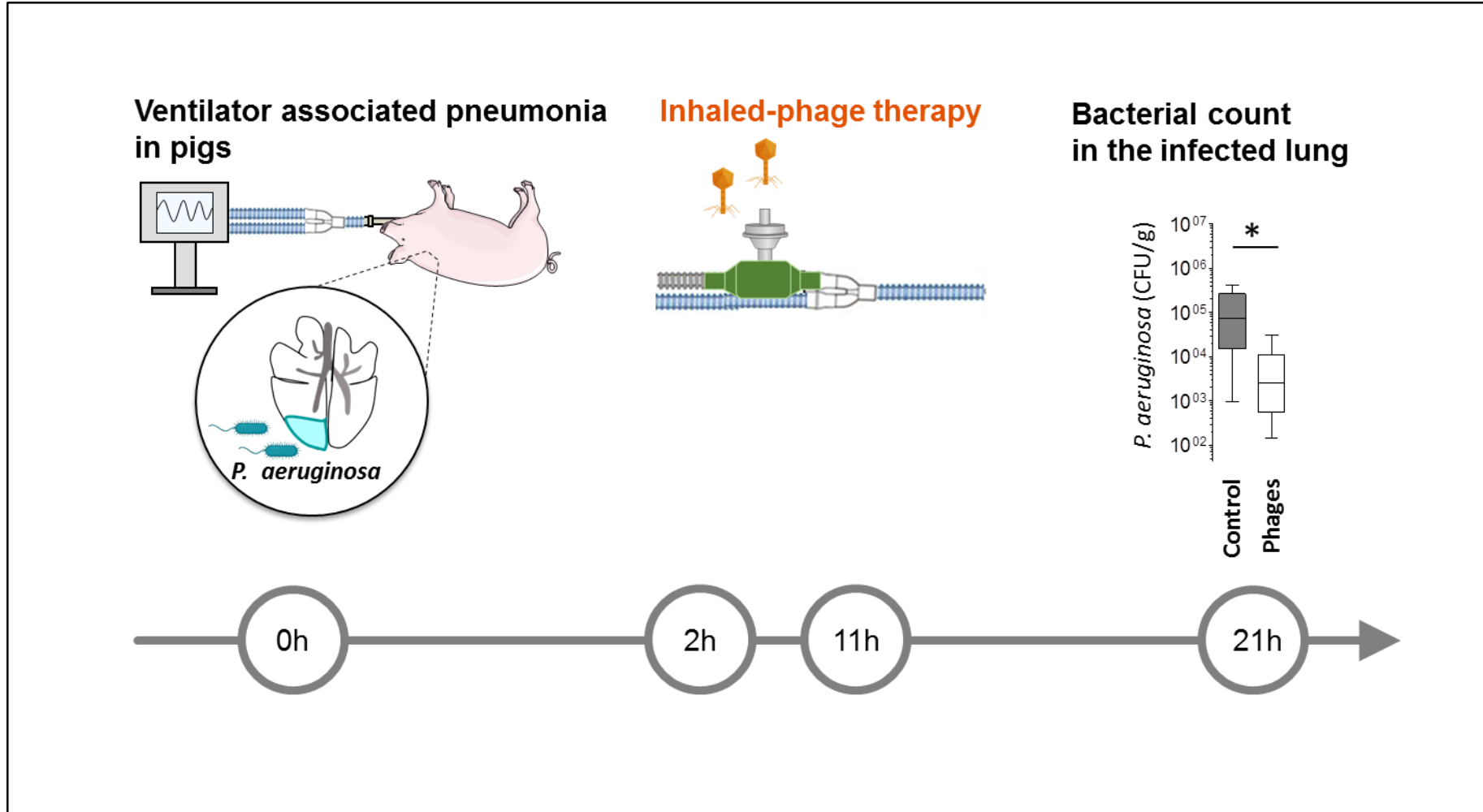


Figure 1. Sensitivity of PAK-Lux to bacteriophages and selection of an adapted bacteriophage combination

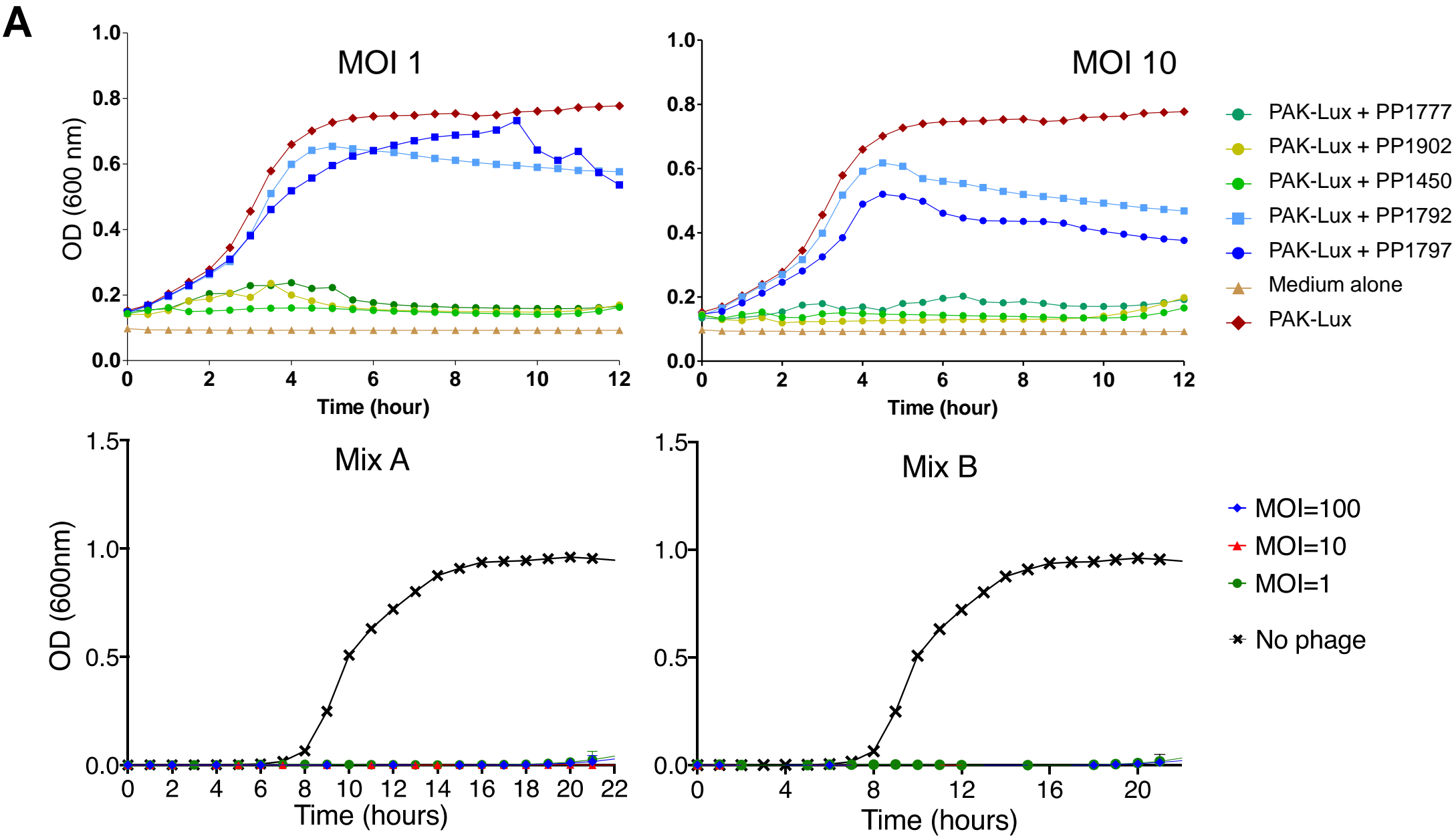
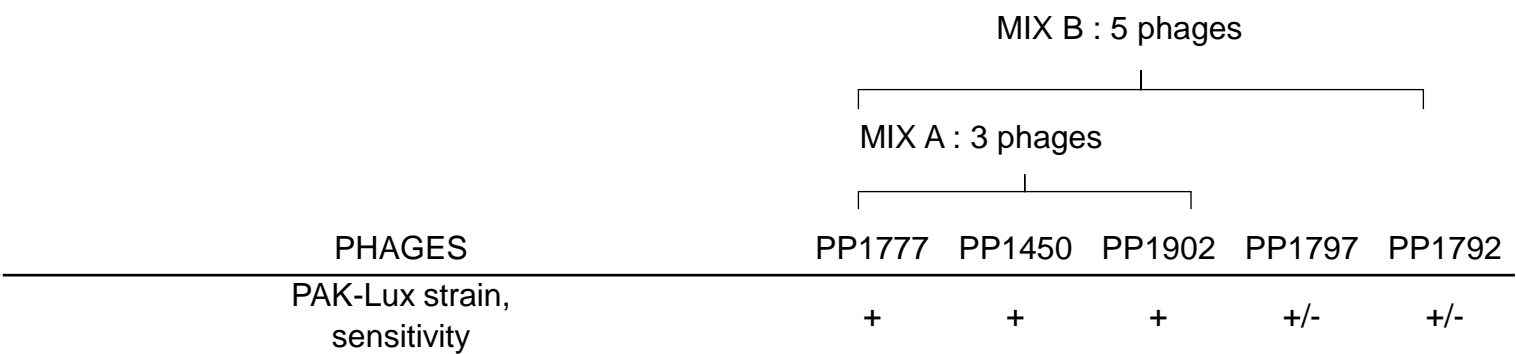


Figure 1. Sensitivity of PAK-Lux to bacteriophages and selection of an adapted bacteriophage combination

B



C

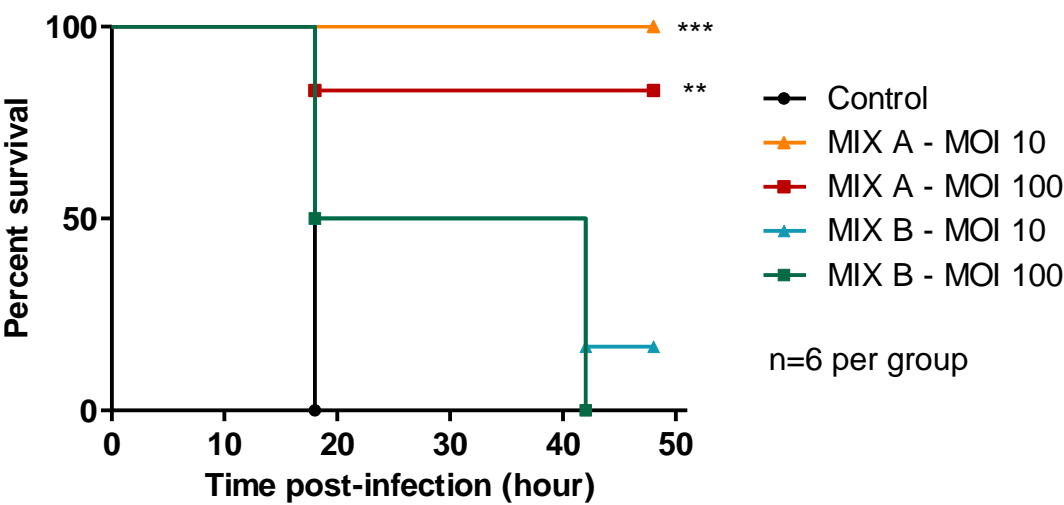
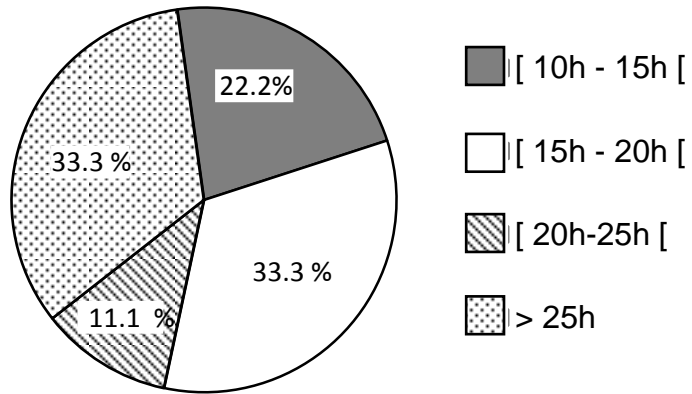


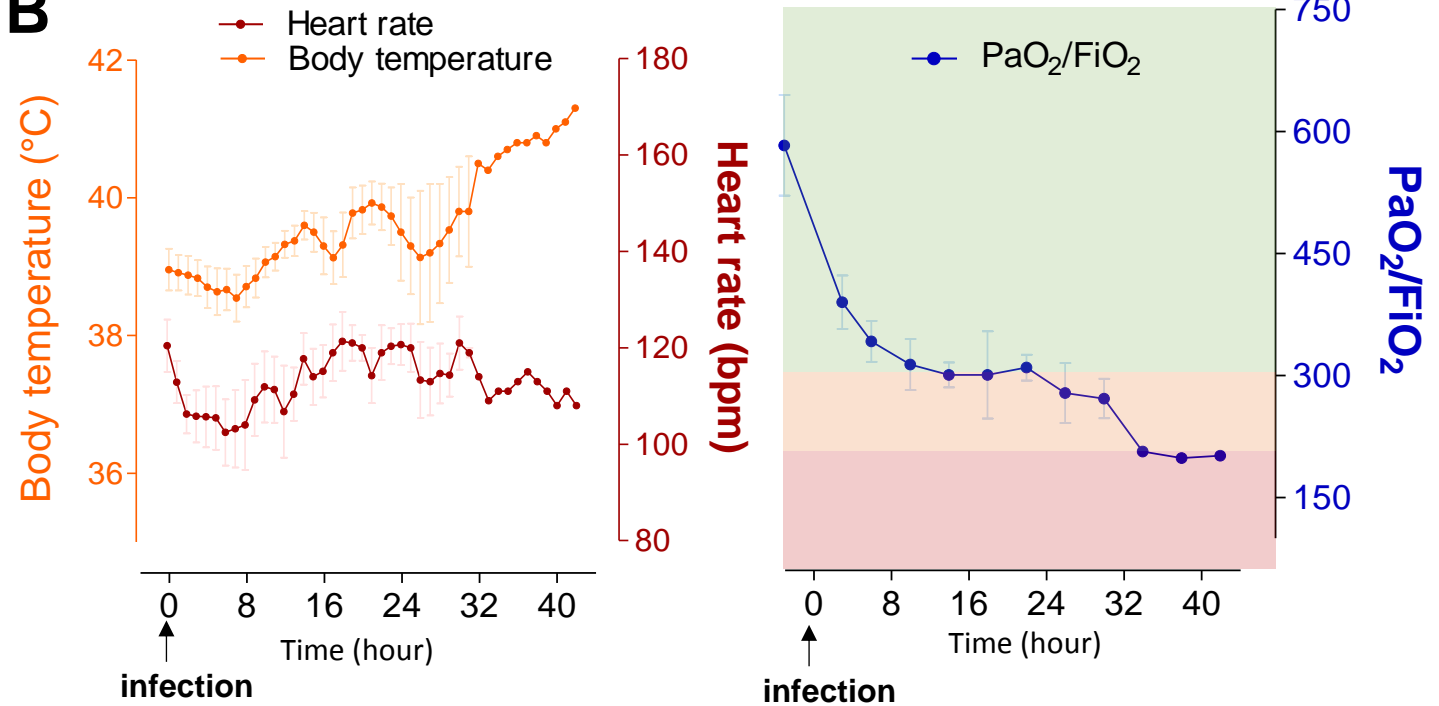
Figure 2. Establishment of a PA-associated VAP model in piglets

A

Proportion of animals surviving to the infection
by range of hours post infection, n=9



B



C

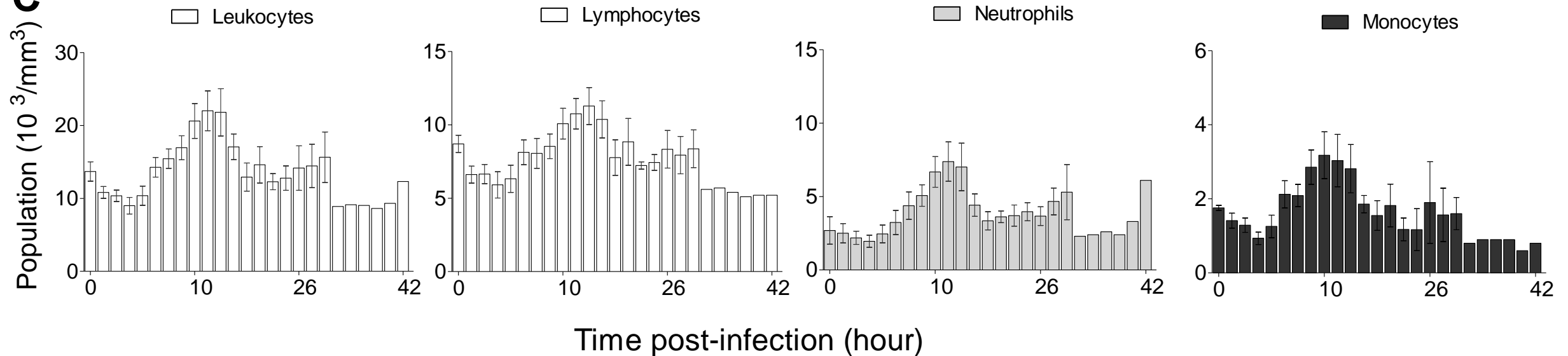
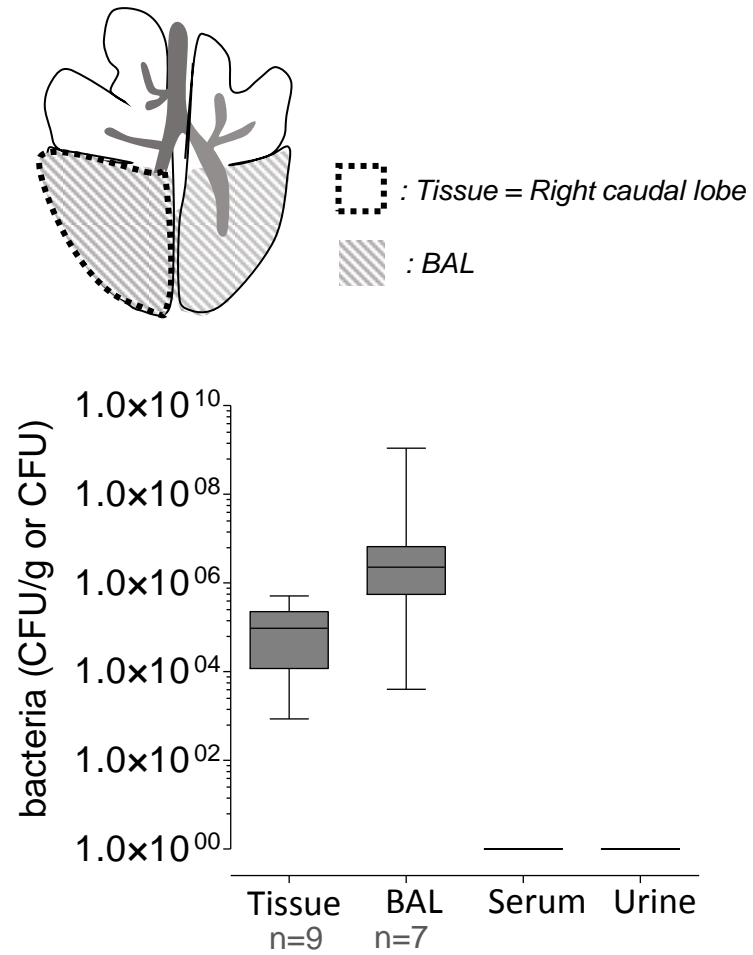


Figure 2. Establishment of a PA-associated VAP model in piglets

D



E

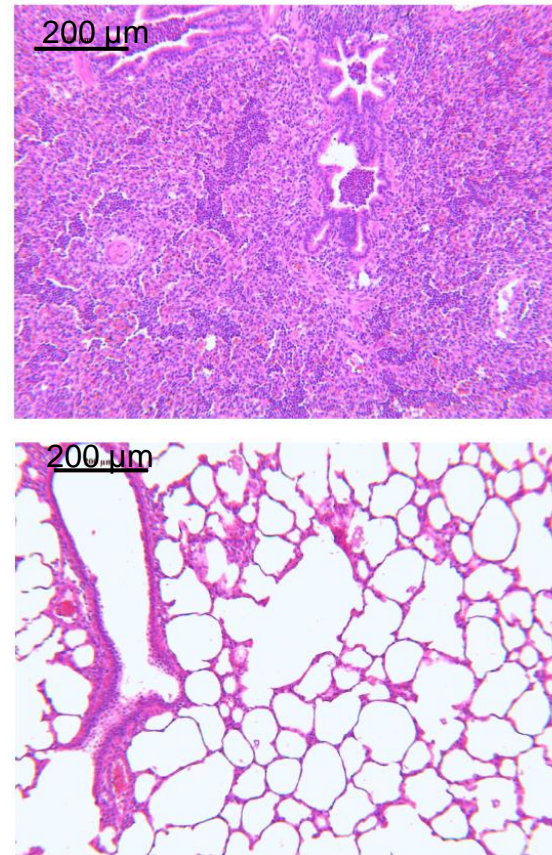


Figure 3. Optimization of administration of inhaled bacteriophage in piglets under mechanical ventilation

A

Optimization of aerosol output –
Prediction of aerosol deposition for mechanical ventilation with pig parameters

T piece (n=3)	Inhalation chamber (CombiHaler®, n=3)
69.5 ± 2.7 %	75.2 ± 3.3%

B

Aerosol aerodynamic properties at the tube outlet using pig
ventilation parameters (n=3)

Particle size (MMAD) : 1.13 ± 0.03 µm

FPF_{5µm} : 99.6 ± 0.2 %

FPF_{2µm} : 91.7 ± 1.2 %

C

Viability of phages in MIX A after
nebulization in experimental conditions (n=3)

5.3 ± 1.9%

Figure 4. Clinical and hematological parameters of infected piglets after bacteriophage inhalation

A

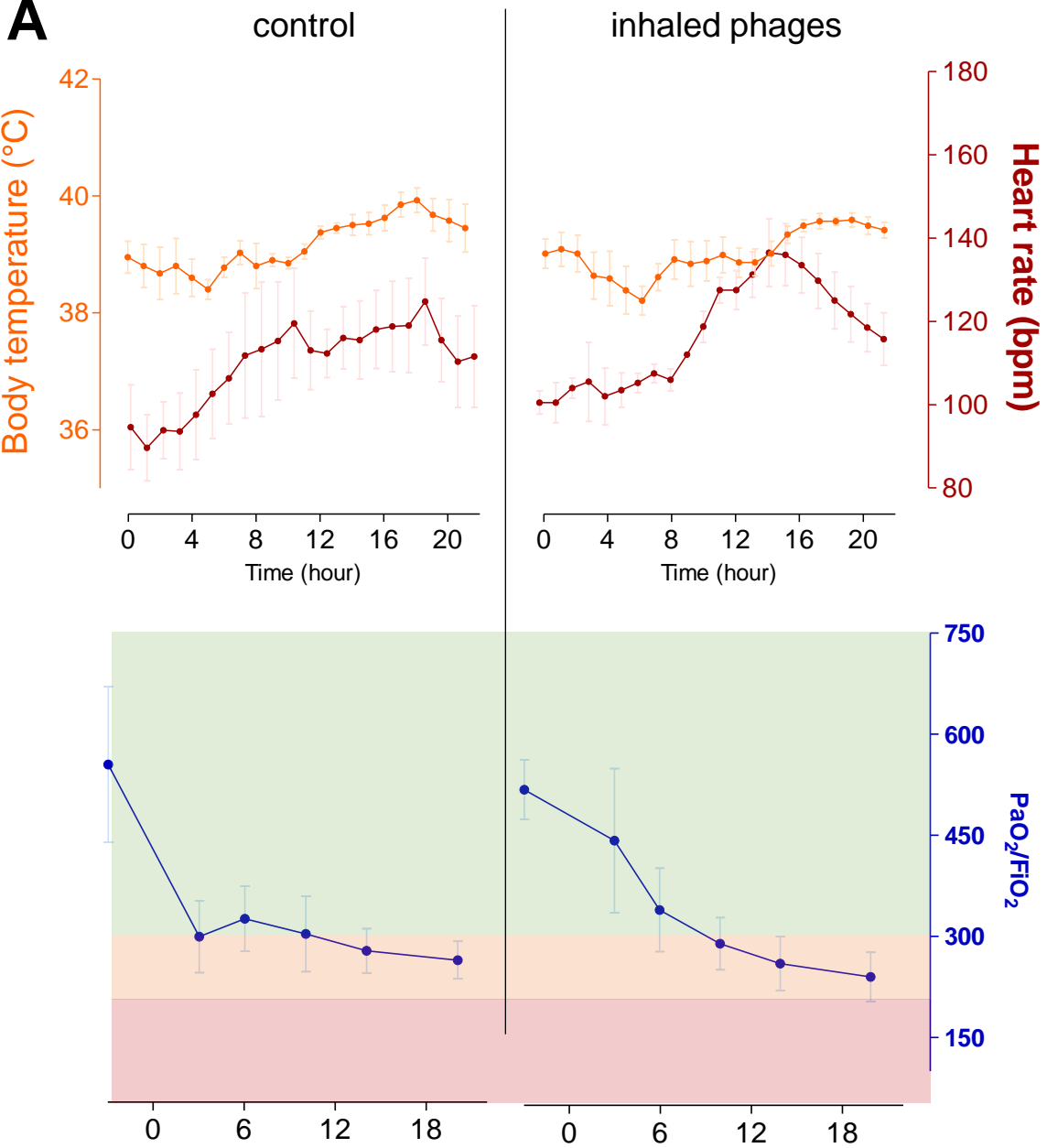
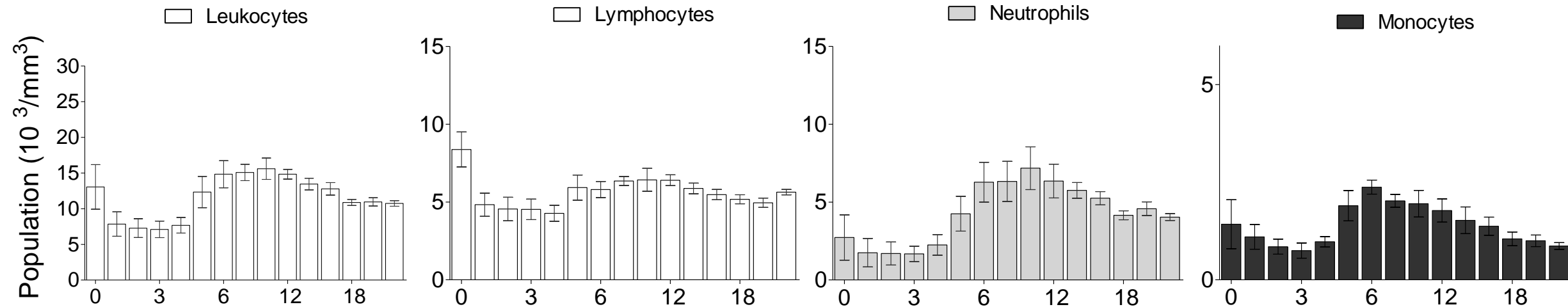


Figure 4. Clinical and hematological parameters of infected piglets after bacteriophage inhalation

B

CONTROL



INHALED PHAGES

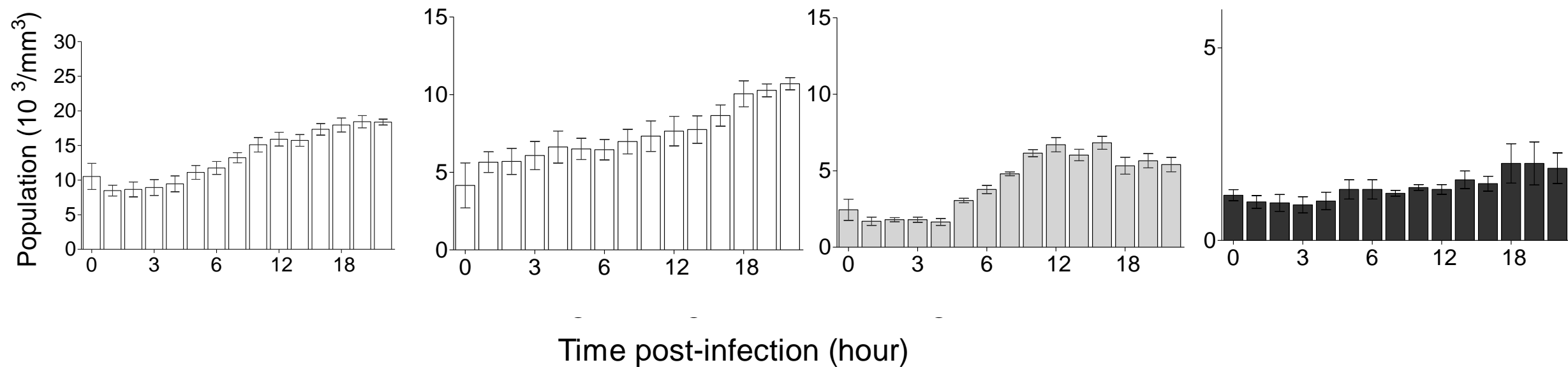
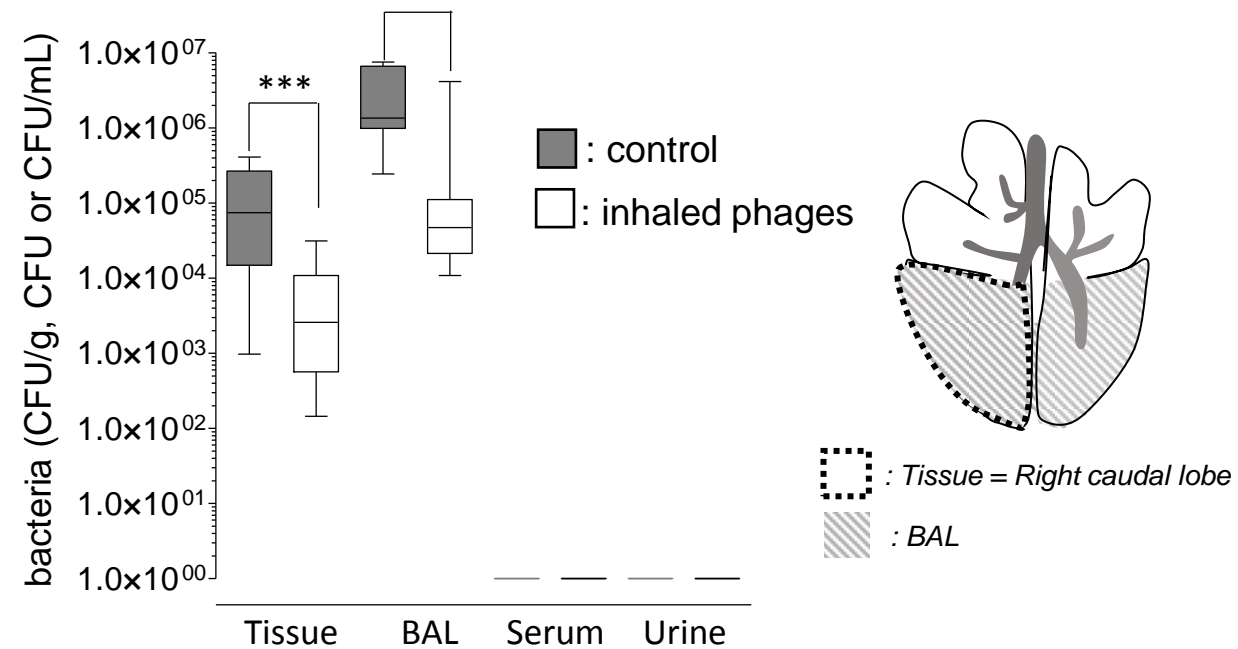
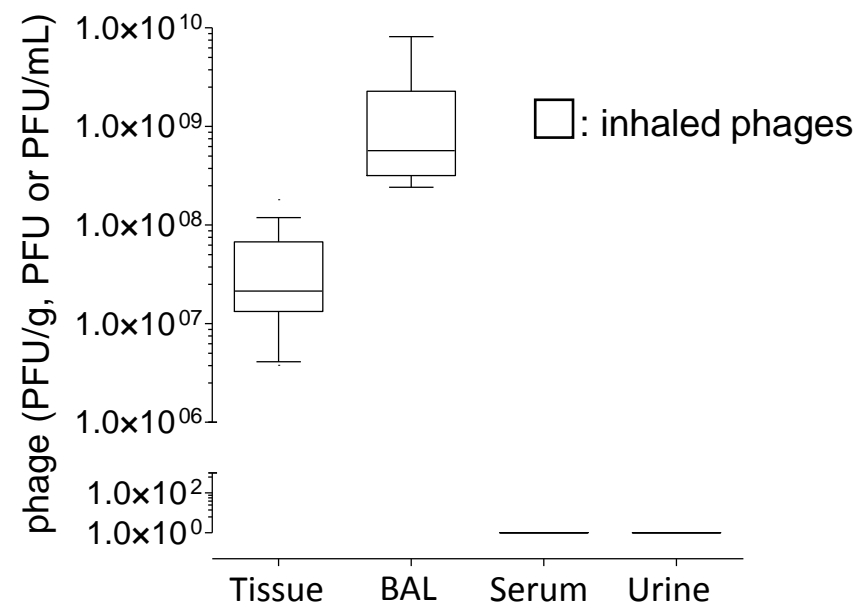


Figure 5. Administration of inhaled bacteriophages controlled PA infection in a VAP-model

A



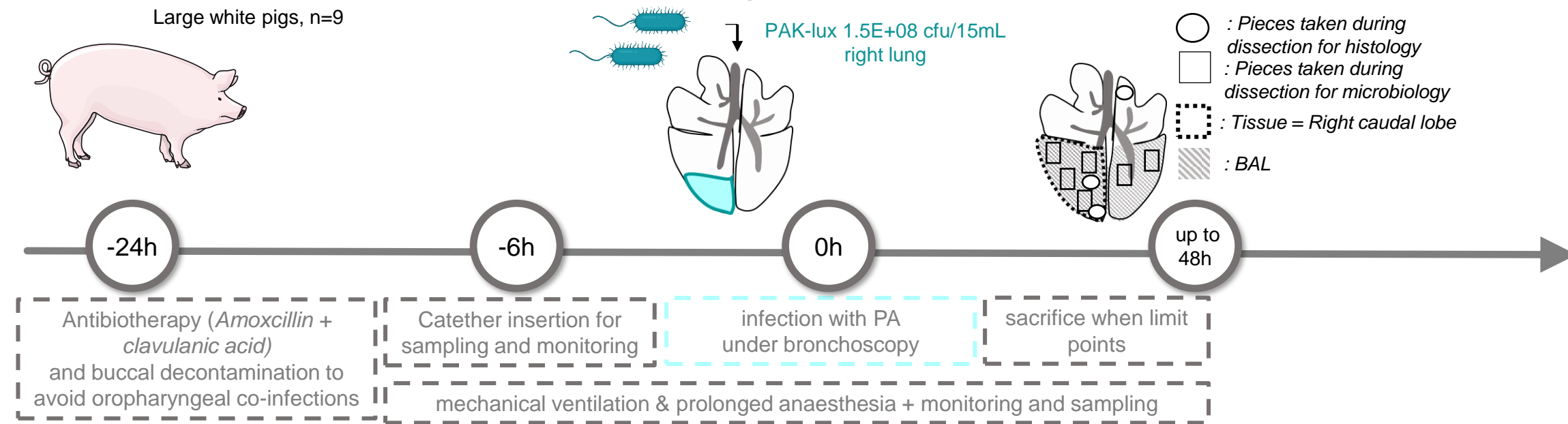
B



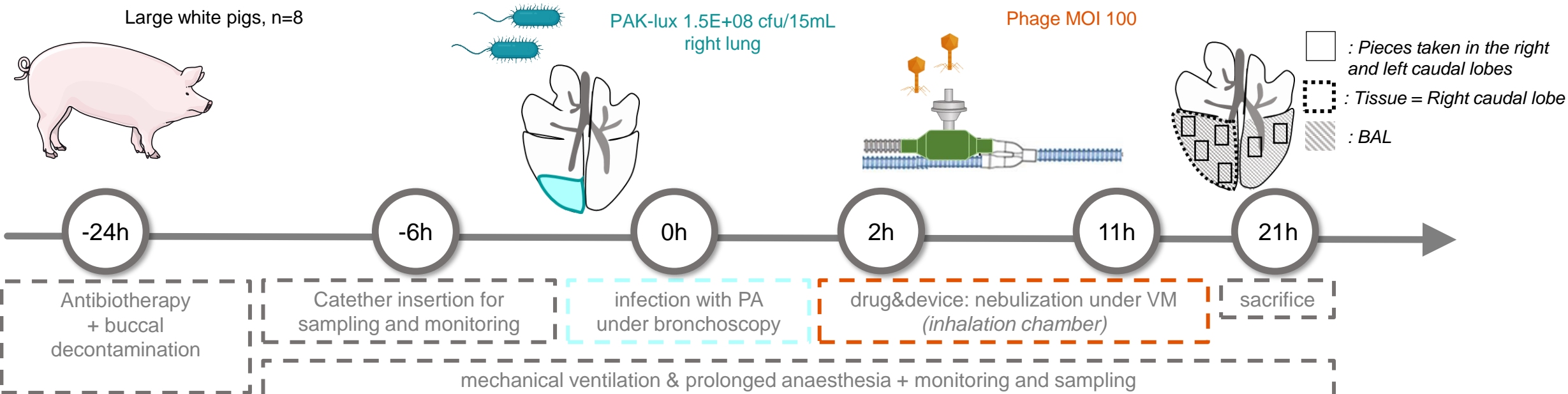
Supplemental Figures:

Supplemental Figure 1. Schematic of experimental settings for VAP model in piglets

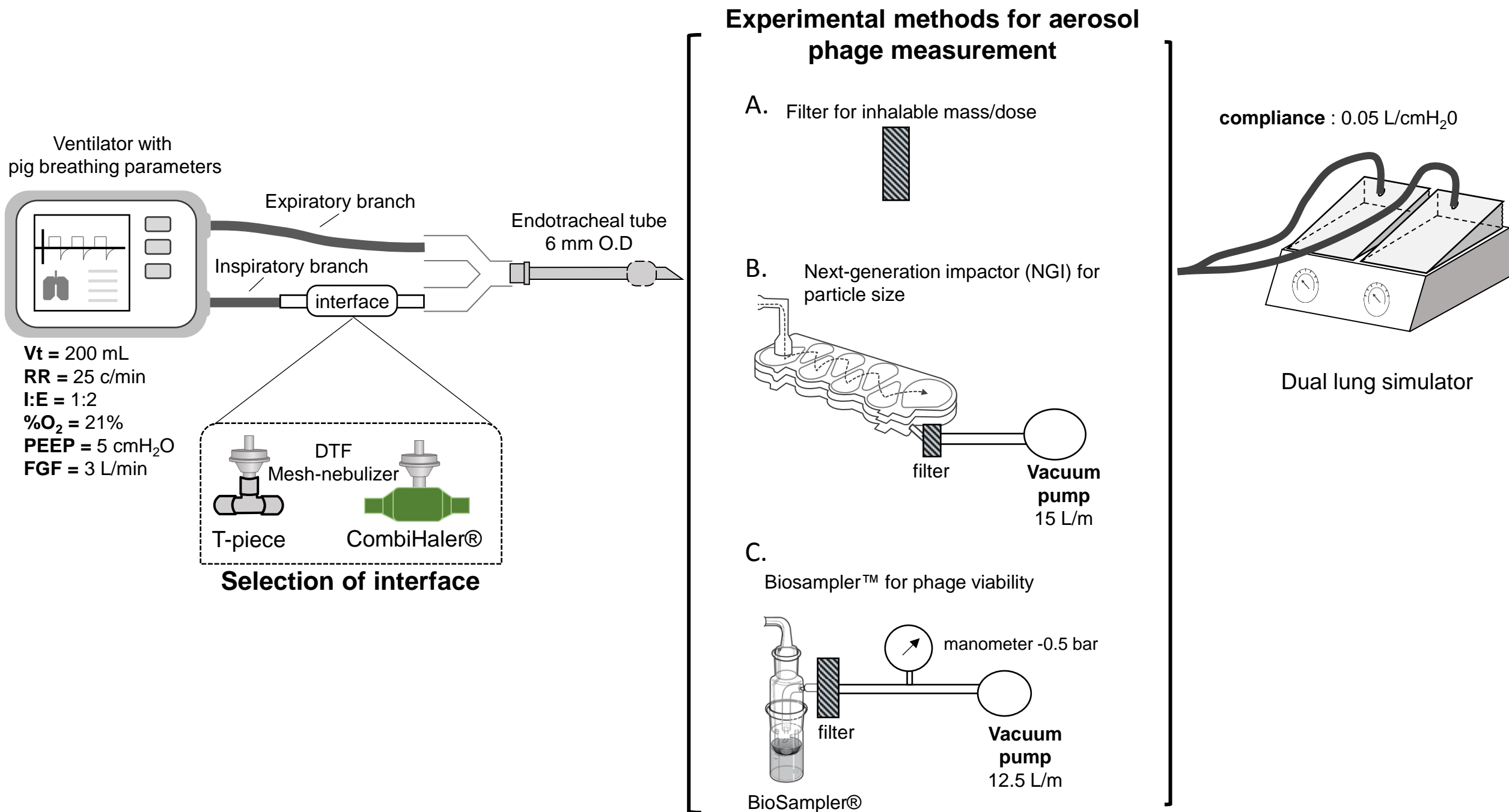
A. Establishment of a PA-associated VAP model in pigs



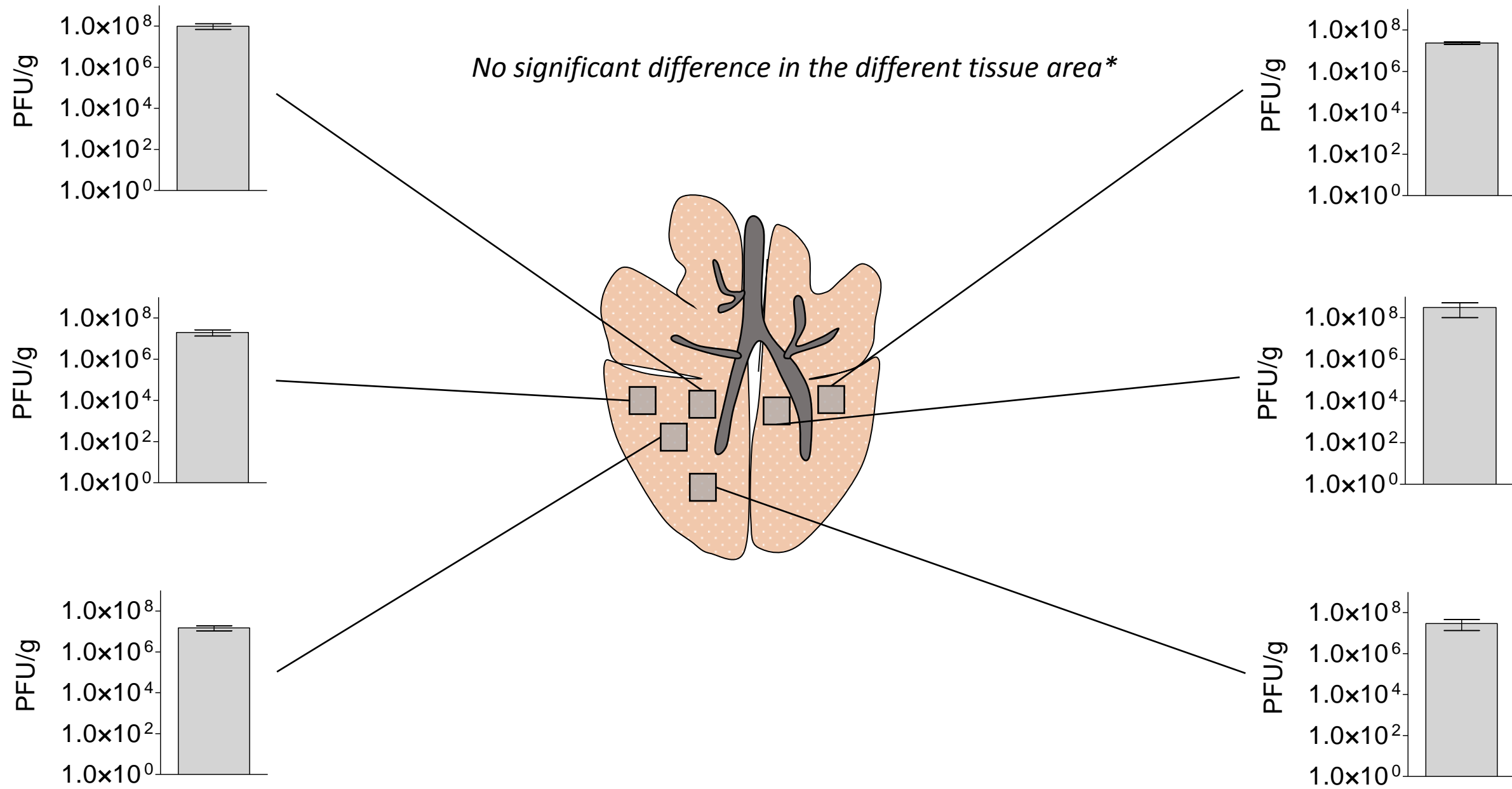
B. Inhaled-phage therapy in the PA-associated VAP model



Supplemental Figure 2. Schematic of optimization of aerosol delivery in piglets under mechanical ventilation



Supplemental Figure 3. Density of phages in the different pieces of the right and left lower lungs after inhalation in the VAP model



*Kruskal-Wallis test