Supplementary methods

Western blotting. A total of 500 μl RIPA pyrolysis solution (Beijing Solarbio Science & Technology Co., Ltd) containing cocktail and PMSF was added to the tissues and a homogenizer was used to further break up the tissue prior to ultrasonic pyrolysis (Ice bath, 200 W for 6 sec at 15 sec intervals, repeated three times). All subsequent samples were centrifuged at 4˚C and 11,000 x g for 25 min and the supernatant was collected. Bicinchoninic Acid method used to measure protein concentration. Equal amounts (30 μg/lane) of proteins extracted from the lung tissue was separated using 8% SDS-PAGE and then transferred to a PVDF membrane. The PVDF membrane was blocked with 5% skimmed milk diluted in TBS-T (containing 0.1% Tween-20) for 1 h at room temperature, followed by incubation with primary anti-VE-cadherin antibody (1:1,000; cat. no. ab33168; Abcam) or anti-GAPDH antibody (1:1,000; cat. no. 2118s; Cell Signaling Technology, Inc.) overnight at 4˚C, followed by the incubation with horseradish peroxidase-conjugated goat anti-rabbit secondary antibodies (1:5,000, cat. no. ZB-2306, Beijing Zhongshan Golden Bridge Biotechnology Co., Ltd.; OriGene Technologies, Inc.) at room temperature for 45 min and detected using a ECL imaging system, finally the Image J software (version 1.48; National Institutes of Health) was used to perform densitometric analysis.

Figure S1. A representative image of serological agglutination test for the detection of *Legionella pneumophila* 1 serogroup 1. (A) Sterile water control; (B) agglutination.

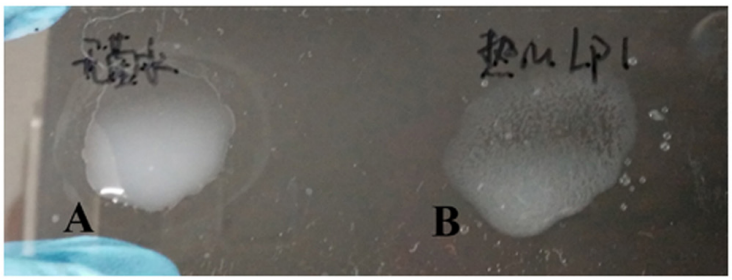

Figure S2. Experimental setup of the IPL-2 Isolated Perfused Lung System for guinea pigs. (A) Thermostatic bath; (B) perfusate reservoir; (C) preload vessel; (D) roller pump; (E) artificial thorax; (F), control module.

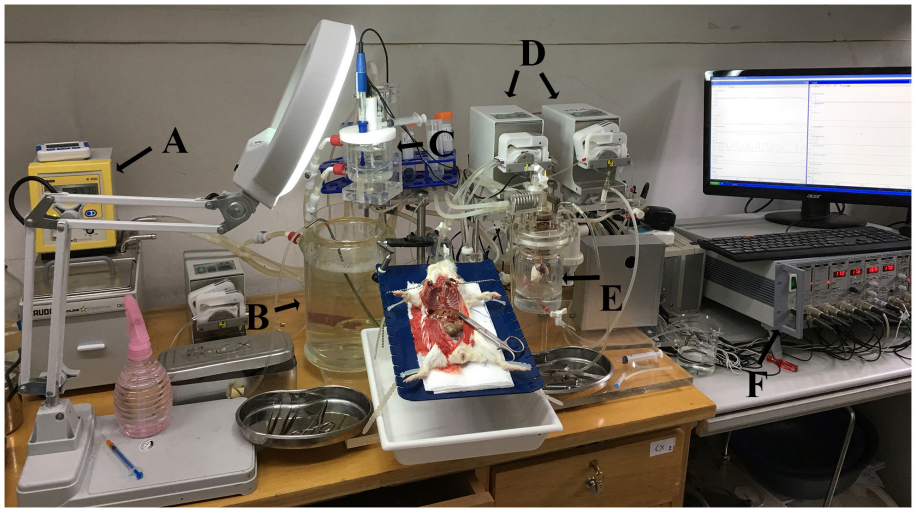

Figure S3. The expression of VE-cadherin in guinea pig lung tissues following 24, 48 and 72 h respective Lp and/or Im by western blotting. Lp, *Legionella pneumophila*; Im, immunosuppressed.