Gas Exchange, Lung Volume, and Wet/Dry Ratio in Controls

**Fig. 1.** Data are given as mean ± SD. Comparisons among groups were performed using two-way ANOVA. (A) fraction of arterial partial pressure of oxygen and inspired oxygen fraction (PaO$_2$/FiO$_2$); (B) arterial partial pressure of carbon dioxide (PaCO$_2$) and one-way ANOVA; (C) end-expiratory lung volume (EELV); (D) lung wet/dry ratio.

I:E = inspiratory-to-expiratory; MV = mechanical ventilation; STP$_{high}$ = high levels of stress vs. time product (I:E 2:1); STP$_{low}$ = low level of stress vs. time product (I:E 1:2); STP$_{mid}$ = middle level of stress vs. time product (I:E 1:1).
Hemodynamics in Controls

**Fig. 2.** Data are given as mean ± SD. Comparisons among groups were performed using two-way ANOVA. (A) heart rate; (B) mean arterial pressure (MAP).

I:E = inspiratory-to-expiratory; MV = mechanical ventilation; STP<sub>high</sub> = high levels of stress vs. time product (I:E 2:1); STP<sub>low</sub> = low level of stress vs. time product (I:E 1:2); STP<sub>mid</sub> = middle level of stress vs. time product (I:E 1:1).
Fig. 3. Data are given as mean ± SD. Comparisons among groups were performed using two-way ANOVA. (A) P_{aw,p} (peak airway pressure); (B) P_{aw,m} (mean airway pressure); (C) P_{L,p} (peak transpulmonary pressure); (D) P_{L,m} (mean transpulmonary pressure); (E) E_{rs} (elastance
of the respiratory system); (F) $R_{rs}$ (resistance of the respiratory system); (G) PEEP$_t$ (dynamic intrinsic positive end-expiratory pressure); (H) peak flow.

I:E = inspiratory-to-expiratory; MV = mechanical ventilation; STP$_{high} =$ high levels of stress vs. time product (I:E 2:1); STP$_{low} =$ low level of stress vs. time product (I:E 1:2); STP$_{mid} =$ middle level of stress vs. time product (I:E 1:1).
Gene Expression in Controls

Fig. 4. Data are given as mean ± SD. Comparisons among groups were performed using one-way ANOVA. Messenger RNA (mRNA) expressions of genes are normalized to the
respective housekeeping gene (glyceraldehyde 3-phosphate dehydrogenase). (A) IL-6 (interleukin-6); (B) caspase 3; (C) RAGE (receptor of advanced glycation end-products); (D) SP-B (surfactant protein B); (E) PC III (type III procollagen); (F) VCAM-1 (vascular cell adhesion molecule-1); (G) ICAM-1 = (intercellular cell adhesion molecule-1).

Control NV = nonventilated control animals; I:E = inspiratory-to-expiratory; MV = mechanical ventilation; STP\textsubscript{high} = high levels of stress vs. time product (I:E 2:1); STP\textsubscript{low} = low level of stress vs. time product (I:E 1:2); STP\textsubscript{mid} = middle level of stress vs. time product (I:E 1:1).
Fig. 5. Results of the stepwise curve-fit regression analyses. Transpulmonary pressure time product (PTP$_L$, in cmH$_2$O.s) was used as nondependent variable while postmortem measurements of caspase 3, receptor for advanced glycation end products (RAGE) and surfactant protein-B (SP-B) were
used as dependent variables (ratio). Panels A and B show curve fit regression analysis in Control animals and panels C, D, and E, in Control combined with lipopolysaccharide-treated animals. Stepwise curve fits were calculated for linear, logarithmic, quadratic and exponential functions. Best model fits were determined by highest $R^2$ values.