

Supplementary Figure 1

Static compliance, C [$\mu\text{l}/\text{cm H}_2\text{O}$]

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,062)
 Equal Variance Test: Passed (P = 0,720)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|--------|---------|-------|
| KET | 8 | 0 | 38,401 | 3,252 | 1,150 |
| ISO | 8 | 0 | 37,338 | 4,243 | 1,500 |
| SEV | 8 | 0 | 37,971 | 3,546 | 1,254 |
| DES | 8 | 0 | 37,507 | 2,705 | 0,956 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|---------|--------|-------|-------|
| Between Groups | 3 | 5,516 | 1,839 | 0,152 | 0,928 |
| Residual | 28 | 339,261 | 12,116 | | |
| Total | 31 | 344,777 | | | |

pH

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,493)
 Equal Variance Test: Passed (P = 0,706)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|--------|
| KET | 8 | 0 | 7,253 | 0,0489 | 0,0173 |
| ISO | 8 | 0 | 7,176 | 0,0669 | 0,0237 |
| SEV | 8 | 0 | 7,260 | 0,0599 | 0,0212 |
| DES | 8 | 0 | 7,196 | 0,0664 | 0,0235 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|--------|---------|-------|-------|
| Between Groups | 3 | 0,0414 | 0,0138 | 3,711 | 0,023 |
| Residual | 28 | 0,104 | 0,00372 | | |
| Total | 31 | 0,146 | | | |

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|-------|-------------|
| SEV vs. ISO | 0,0840 | 4 | 3,896 | 0,047 | Yes |
| SEV vs. DES | 0,0636 | 4 | 2,951 | 0,182 | No |
| SEV vs. KET | 0,00700 | 4 | 0,325 | 0,996 | Do Not Test |
| KET vs. ISO | 0,0770 | 4 | 3,571 | 0,078 | No |
| KET vs. DES | 0,0566 | 4 | 2,626 | 0,269 | Do Not Test |
| DES vs. ISO | 0,0204 | 4 | 0,945 | 0,908 | Do Not Test |

Supplementary to Table 1: Physiological parameters

Mice were sacrificed after mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET) or air + isoflurane (ISO), air + sevoflurane (SEV), air + desflurane (DES). a. One Way Analysis of Variance; b. Tukeys post hoc test

Supplementary Figure 2

Arterial oxygen partial pressure, p_aO_2 [kPa]

One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,598)
Equal Variance Test: Passed (P = 0,661)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|--------|---------|-------|
| KET | 8 | 0 | 10,001 | 2,118 | 0,749 |
| ISO | 8 | 0 | 11,181 | 2,045 | 0,723 |
| SEV | 8 | 0 | 10,566 | 2,464 | 0,871 |
| DES | 8 | 0 | 9,911 | 1,495 | 0,529 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|---------|-------|-------|-------|
| Between Groups | 3 | 8,278 | 2,759 | 0,650 | 0,589 |
| Residual | 28 | 118,840 | 4,244 | | |
| Total | 31 | 127,118 | | | |

Arterial carbon dioxide partial pressure, p_aCO_2 [kPa]

One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,266)
Equal Variance Test: Passed (P = 0,726)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|-------|
| KET | 8 | 0 | 5,874 | 0,899 | 0,318 |
| ISO | 8 | 0 | 5,391 | 0,923 | 0,326 |
| SEV | 8 | 0 | 5,278 | 1,212 | 0,429 |
| DES | 8 | 0 | 5,164 | 1,416 | 0,501 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|--------|-------|-------|-------|
| Between Groups | 3 | 2,341 | 0,780 | 0,608 | 0,615 |
| Residual | 28 | 35,944 | 1,284 | | |
| Total | 31 | 38,285 | | | |

Supplementary to Table 1: Physiological parameters

Mice were sacrificed after mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES).

Supplementary Figure 3

Mean arterial pressure, MAP [mmHg]

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,187)
 Equal Variance Test: Passed (P = 0,289)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|--------|---------|-------|
| KET | 8 | 0 | 70,202 | 7,323 | 2,589 |
| ISO | 8 | 0 | 59,683 | 5,052 | 1,786 |
| SEV | 8 | 0 | 64,115 | 4,300 | 1,520 |
| DES | 8 | 0 | 63,971 | 2,661 | 0,941 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|----------|---------|-------|-------|
| Between Groups | 3 | 449,166 | 149,722 | 5,719 | 0,003 |
| Residual | 28 | 733,057 | 26,181 | | |
| Total | 31 | 1182,223 | | | |

b. All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|--------|-------|-------------|
| KET vs. ISO | 10,519 | 4 | 5,815 | 0,002 | Yes |
| KET vs. DES | 6,231 | 4 | 3,444 | 0,093 | No |
| KET vs. SEV | 6,087 | 4 | 3,365 | 0,105 | Do Not Test |
| SEV vs. ISO | 4,433 | 4 | 2,450 | 0,326 | No |
| SEV vs. DES | 0,144 | 4 | 0,0797 | 1,000 | Do Not Test |
| DES vs. ISO | 4,288 | 4 | 2,371 | 0,355 | Do Not Test |

Supplementary to Table 1: Physiological parameters

Mice were sacrificed after mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). a. One Way Analysis of Variance; b. Tukeys post hoc test

Supplementary Figure 4

Alveolar wall thickness [μm]

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,740)
 Equal Variance Test: Passed (P = 0,337)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|-------|
| C | 7 | 0 | 5,404 | 0,710 | 0,268 |
| KET | 7 | 0 | 8,523 | 0,658 | 0,249 |
| ISO | 7 | 0 | 5,677 | 0,583 | 0,221 |
| SEV | 8 | 0 | 5,086 | 0,593 | 0,209 |
| DES | 8 | 0 | 8,107 | 1,200 | 0,424 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|--------|--------|--------|--------|
| Between Groups | 4 | 78,336 | 19,584 | 31,030 | <0,001 |
| Residual | 32 | 20,196 | 0,631 | | |
| Total | 36 | 98,532 | | | |

b. All Pairwise Multiple Comparison Procedures (Student-Newman-Keuls Method) :

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|--------|--------|-------------|
| KET vs. SEV | 3,438 | 5 | 11,824 | <0,001 | Yes |
| KET vs. C | 3,120 | 4 | 10,390 | <0,001 | Yes |
| KET vs. ISO | 2,847 | 3 | 9,480 | <0,001 | Yes |
| KET vs. DES | 0,417 | 2 | 1,433 | 0,319 | No |
| DES vs. SEV | 3,021 | 4 | 10,756 | <0,001 | Yes |
| DES vs. C | 2,703 | 3 | 9,298 | <0,001 | Yes |
| DES vs. ISO | 2,430 | 2 | 8,359 | <0,001 | Yes |
| ISO vs. SEV | 0,591 | 3 | 2,033 | 0,334 | No |
| ISO vs. C | 0,273 | 2 | 0,910 | 0,525 | Do Not Test |
| C vs. SEV | 0,318 | 2 | 1,093 | 0,445 | Do Not Test |

c. All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|--------|--------|-------------|
| KET vs. SEV | 3,438 | 5 | 11,824 | <0,001 | Yes |
| KET vs. C | 3,120 | 5 | 10,390 | <0,001 | Yes |
| KET vs. ISO | 2,847 | 5 | 9,480 | <0,001 | Yes |
| KET vs. DES | 0,417 | 5 | 1,433 | 0,848 | No |
| DES vs. SEV | 3,021 | 5 | 10,756 | <0,001 | Yes |
| DES vs. C | 2,703 | 5 | 9,298 | <0,001 | Yes |
| DES vs. ISO | 2,430 | 5 | 8,359 | <0,001 | Yes |
| ISO vs. SEV | 0,591 | 5 | 2,033 | 0,609 | No |
| ISO vs. C | 0,273 | 5 | 0,910 | 0,967 | Do Not Test |
| C vs. SEV | 0,318 | 5 | 1,093 | 0,937 | Do Not Test |

Supplementary to Figure 1 B: Effect of inhaled anesthetics on ventilator-induced lung injury, alveolar wall thickness. Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Sections from the left lung lobe were stained with hematoxylin and eosin. Representative photos are shown for each experimental group. High power fields were randomly assigned per photo to measure alveolar wall thickness; a. One Way Analysis of Variance; b. Student-Newman-Keuls post hoc test; c. Tukeys post hoc test

Supplementary Figure 5

VILI-Score

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,448)
 Equal Variance Test: Passed (P = 0,709)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|-------|
| C | 7 | 0 | 2,342 | 1,510 | 0,571 |
| KET | 7 | 0 | 5,204 | 1,209 | 0,457 |
| ISO | 7 | 0 | 2,912 | 1,839 | 0,695 |
| SEV | 8 | 0 | 1,953 | 1,369 | 0,484 |
| DES | 8 | 0 | 5,757 | 2,237 | 0,791 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|---------|--------|-------|--------|
| Between Groups | 4 | 91,266 | 22,817 | 8,030 | <0,001 |
| Residual | 32 | 90,926 | 2,841 | | |
| Total | 36 | 182,192 | | | |

b. All Pairwise Multiple Comparison Procedures (Student-Newman-Keuls Method) :

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|--------|-------------|
| DES vs. SEV | 3,804 | 5 | 6,383 | <0,001 | Yes |
| DES vs. C | 3,416 | 4 | 5,537 | 0,002 | Yes |
| DES vs. ISO | 2,846 | 3 | 4,613 | 0,007 | Yes |
| DES vs. KET | 0,553 | 2 | 0,897 | 0,531 | No |
| KET vs. SEV | 3,251 | 4 | 5,270 | 0,004 | Yes |
| KET vs. C | 2,862 | 3 | 4,493 | 0,009 | Yes |
| KET vs. ISO | 2,292 | 2 | 3,598 | 0,016 | Yes |
| ISO vs. SEV | 0,959 | 3 | 1,554 | 0,522 | No |
| ISO vs. C | 0,570 | 2 | 0,895 | 0,532 | Do Not Test |
| C vs. SEV | 0,389 | 2 | 0,630 | 0,659 | Do Not Test |

c. All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|--------|-------------|
| DES vs. SEV | 3,804 | 5 | 6,383 | <0,001 | Yes |
| DES vs. C | 3,416 | 5 | 5,537 | 0,004 | Yes |
| DES vs. ISO | 2,846 | 5 | 4,613 | 0,021 | Yes |
| DES vs. KET | 0,553 | 5 | 0,897 | 0,968 | No |
| KET vs. SEV | 3,251 | 5 | 5,270 | 0,006 | Yes |
| KET vs. C | 2,862 | 5 | 4,493 | 0,026 | Yes |
| KET vs. ISO | 2,292 | 5 | 3,598 | 0,106 | No |
| ISO vs. SEV | 0,959 | 5 | 1,554 | 0,806 | No |
| ISO vs. C | 0,570 | 5 | 0,895 | 0,969 | Do Not Test |
| C vs. SEV | 0,389 | 5 | 0,630 | 0,991 | Do Not Test |

Supplementary to Figure 1 C: Effect of inhaled anesthetics on ventilator-induced lung injury, VILI-Score.

Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Sections from the left lung lobe were stained with hematoxylin and eosin. Representative photos are shown for each experimental group (magnification x200). High power fields were randomly assigned per photo calculate the ventilator-induced lung injury (VILI)-score; a. One Way Analysis of Variance; b. Student-Newman-Keuls post hoc test; c. Tukeys post hoc test

Supplementary Figure 6

PMN [%]

a. Descriptive data

| | C | KET | ISO | SEV | DES |
|----------------------|--------|-------|-------|-------|-------|
| Number of values | 8 | 8 | 8 | 8 | 8 |
| Minimum | 0,4484 | 18,21 | 2,05 | 2,315 | 19,53 |
| 25% Percentile | 0,9189 | 21,35 | 5,436 | 5,074 | 22,93 |
| Median | 1,188 | 25,75 | 14,18 | 10,94 | 36,86 |
| 75% Percentile | 2,444 | 45,76 | 16,86 | 27,61 | 47,75 |
| Maximum | 3,865 | 52,8 | 21,5 | 28,26 | 66,02 |
| Mean | 1,671 | 31,54 | 12,49 | 14,61 | 38,03 |
| Std. Deviation | 1,134 | 13,26 | 6,691 | 11,17 | 15,6 |
| Std. Error of Mean | 0,401 | 4,687 | 2,366 | 3,949 | 5,514 |
| Lower 95% CI of mean | 0,7227 | 20,46 | 6,891 | 5,27 | 24,99 |
| Upper 95% CI of mean | 2,619 | 42,63 | 18,08 | 23,94 | 51,07 |

b. Kruskal-Wallis test

| | |
|--|----------|
| P value | < 0,0001 |
| P value summary | **** |
| Do the medians vary signif. (P < 0.05) | Yes |
| Number of groups | 5 |
| Kruskal-Wallis statistic | 27,87 |

c. Dunn's multiple comparisons test

| | Mean rank diff. | Significant? | Summary | Adjusted P Value |
|-------------|-----------------|--------------|---------|------------------|
| C vs. KET | -24,31 | Yes | *** | 0,0003 |
| C vs. ISO | -10,81 | No | ns | 0,6439 |
| C vs. SEV | -13,75 | No | ns | 0,1869 |
| C vs. DES | -27,06 | Yes | **** | < 0,0001 |
| KET vs. ISO | 13,5 | No | ns | 0,2095 |
| KET vs. SEV | 10,56 | No | ns | 0,708 |
| KET vs. DES | -2,75 | No | ns | > 0,9999 |
| ISO vs. SEV | -2,938 | No | ns | > 0,9999 |
| ISO vs. DES | -16,25 | No | ns | 0,0545 |
| SEV vs. DES | -13,31 | No | ns | 0,2279 |

Supplementary to Figure 2 A: Effect of inhaled anesthetics on neutrophil transmigration and inflammation, polymorphic neutrophils. Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Broncho-alveolar lavage was performed in the right lung. The relative amount of neutrophils was determined; a. descriptive data; b. Kruskal-Wallis test; c. Dunn`s post hoc test

Supplementary Figure 7

IL-1 β [pg/ml]

a. Descriptive data

| | C | KET | ISO | SEV | DES |
|----------------------|-------|-------|-------|-------|-------|
| Number of values | 6 | 6 | 6 | 6 | 6 |
| Minimum | 0 | 5,714 | 5 | 4,286 | 7,857 |
| 25% Percentile | 2,143 | 8,929 | 5 | 4,286 | 10,54 |
| Median | 4,643 | 11,07 | 8,571 | 6,071 | 17,14 |
| 75% Percentile | 8,929 | 12,86 | 9,643 | 9,464 | 29,11 |
| Maximum | 10 | 15 | 12,86 | 14,29 | 45,71 |
| Mean | 5,119 | 10,83 | 8,095 | 7,143 | 20,48 |
| Std. Deviation | 3,682 | 3,111 | 2,916 | 3,753 | 13,5 |
| Std. Error of Mean | 1,503 | 1,27 | 1,19 | 1,532 | 5,51 |
| Lower 95% CI of mean | 1,255 | 7,569 | 5,035 | 3,205 | 6,312 |
| Upper 95% CI of mean | 8,983 | 14,1 | 11,16 | 11,08 | 34,64 |

b. Kruskal-Wallis test

| | |
|--|--------|
| P value | 0,0078 |
| P value summary | ** |
| Do the medians vary signif. (P < 0.05) | Yes |
| Number of groups | 5 |
| Kruskal-Wallis statistic | 13,84 |

c. Dunn's multiple comparisons test

| | Mean rank diff. | Significant? | Summary | Adjusted P Value |
|-------------|-----------------|--------------|---------|------------------|
| C vs. KET | -11,67 | No | ns | 0,2139 |
| C vs. ISO | -6 | No | ns | > 0,9999 |
| C vs. SEV | -2,917 | No | ns | > 0,9999 |
| C vs. DES | -16,5 | Yes | * | 0,0114 |
| KET vs. ISO | 5,667 | No | ns | > 0,9999 |
| KET vs. SEV | 8,75 | No | ns | 0,8435 |
| KET vs. DES | -4,833 | No | ns | > 0,9999 |
| ISO vs. SEV | 3,083 | No | ns | > 0,9999 |
| ISO vs. DES | -10,5 | No | ns | 0,3835 |
| SEV vs. DES | -13,58 | No | ns | 0,0739 |

Supplementary to Figure 2 B: Effect of inhaled anesthetics on neutrophil transmigration and inflammation, IL-1 β . Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). The concentration of IL-1 β was determined in the broncho-alveolar lavage of the right lung. a. descriptive data; b. Kruskal-Wallis test; c. Dunn's post hoc test

Supplementary Figure 8

ICAM-1 mRNA [fold induction]

Normality Test (Shapiro-Wilk) Failed (P < 0,050)

Kruskal-Wallis Test

| Group | N | Missing | Median | 25% | 75% |
|-------|---|---------|--------|-------|-------|
| C | 8 | 0 | 0,969 | 0,876 | 1,008 |
| KET | 8 | 0 | 0,651 | 0,535 | 1,187 |
| ISO | 8 | 0 | 0,809 | 0,635 | 0,903 |
| SEV | 8 | 0 | 0,940 | 0,771 | 1,002 |
| DES | 8 | 0 | 0,941 | 0,614 | 1,118 |

H = 5,018 with 4 degrees of freedom. (P = 0,285)

ICAM-1 protein expression [fold induction]

Normality Test (Shapiro-Wilk) Failed (P < 0,050)

Kruskal-Wallis Test

| Group | N | Missing | Median | 25% | 75% |
|-------|---|---------|--------|-------|-------|
| C | 6 | 0 | 1,124 | 0,895 | 1,538 |
| KET | 6 | 0 | 1,107 | 0,906 | 1,550 |
| ISO | 6 | 0 | 1,244 | 1,026 | 1,716 |
| SEV | 6 | 0 | 1,089 | 0,836 | 1,533 |
| DES | 6 | 0 | 1,251 | 0,927 | 1,724 |

H = 1,669 with 4 degrees of freedom. (P = 0,796)

Supplementary to Table 2: ICAM-1 signal transduction, ICAM-1 mRNA and ICAM-1 protein expression.

Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Lung homogenates were analyzed for ICAM-1 mRNA expression by semi-quantitative real time polymerase chain reaction and ICAM-1 protein expression by western blot; normality test and Kruskal-Wallis test

Supplementary Figure 9

ICAM-1 [mean intensity]

One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,091)
 Equal Variance Test: Passed (P = 0,584)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|----------|---------|---------|
| C | 7 | 0 | 2148,655 | 249,833 | 94,428 |
| MV | 8 | 0 | 2205,208 | 211,867 | 74,906 |
| ISO | 7 | 0 | 2276,262 | 174,235 | 65,855 |
| SEV | 8 | 0 | 2194,917 | 278,769 | 98,560 |
| DES | 8 | 0 | 2215,667 | 300,750 | 106,331 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|-------------|-----------|-------|-------|
| Between Groups | 4 | 59172,495 | 14793,124 | 0,238 | 0,915 |
| Residual | 33 | 2047997,915 | 62060,543 | | |
| Total | 37 | 2107170,410 | | | |

p-src Tyr416 protein expression [fold induction]

One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,094)
 Equal Variance Test: Passed (P = 0,418)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|-------|
| C | 8 | 1 | 1,168 | 0,612 | 0,231 |
| MV | 8 | 0 | 1,195 | 0,346 | 0,122 |
| ISO | 8 | 0 | 1,623 | 0,958 | 0,339 |
| SEV | 8 | 0 | 1,299 | 0,737 | 0,261 |
| DES | 8 | 0 | 1,760 | 0,952 | 0,337 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|--------|-------|-------|-------|
| Between Groups | 4 | 2,217 | 0,554 | 0,959 | 0,443 |
| Residual | 34 | 19,652 | 0,578 | | |
| Total | 38 | 21,869 | | | |

Supplementary to Table 2: ICAM-1 signal transduction, ICAM-1 immunofluorescence staining and p-src Tyr416 protein expression. Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Lung cryosections were stained for ICAM-1 by immunofluorescence. Lung homogenates were analyzed for phosphorylated src expression by semi-quantitative real time polymerase chain reaction. One Way Analysis of Variance.

Supplementary Figure 10

DHE intensity

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,898)
 Equal Variance Test: Passed (P = 0,223)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|--------|
| C | 7 | 1 | 1,000 | 0,205 | 0,0835 |
| KET | 7 | 1 | 1,498 | 0,521 | 0,213 |
| ISO | 7 | 1 | 1,070 | 0,235 | 0,0958 |
| SEV | 7 | 1 | 0,975 | 0,212 | 0,0864 |
| DES | 7 | 1 | 1,535 | 0,310 | 0,126 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|-------|-------|-------|-------|
| Between Groups | 4 | 1,845 | 0,461 | 4,525 | 0,007 |
| Residual | 25 | 2,548 | 0,102 | | |
| Total | 29 | 4,392 | | | |

b. All Pairwise Multiple Comparison Procedures (Student-Newman-Keuls Method) :

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|-------|-------------|
| DES vs. SEV | 0,560 | 5 | 4,296 | 0,040 | Yes |
| DES vs. C | 0,535 | 4 | 4,106 | 0,036 | Yes |
| DES vs. ISO | 0,465 | 3 | 3,569 | 0,047 | Yes |
| DES vs. KET | 0,0369 | 2 | 0,283 | 0,843 | No |
| KET vs. SEV | 0,523 | 4 | 4,013 | 0,041 | Yes |
| KET vs. C | 0,498 | 3 | 3,823 | 0,032 | Yes |
| KET vs. ISO | 0,428 | 2 | 3,286 | 0,029 | Yes |
| ISO vs. SEV | 0,0948 | 3 | 0,728 | 0,865 | No |
| ISO vs. C | 0,0700 | 2 | 0,537 | 0,708 | Do Not Test |
| C vs. SEV | 0,0248 | 2 | 0,191 | 0,894 | Do Not Test |

c. All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|-------|-------------|
| DES vs. SEV | 0,560 | 5 | 4,296 | 0,040 | Yes |
| DES vs. C | 0,535 | 5 | 4,106 | 0,054 | No |
| DES vs. ISO | 0,465 | 5 | 3,569 | 0,117 | Do Not Test |
| DES vs. KET | 0,0369 | 5 | 0,283 | 1,000 | Do Not Test |
| KET vs. SEV | 0,523 | 5 | 4,013 | 0,062 | No |
| KET vs. C | 0,498 | 5 | 3,823 | 0,082 | Do Not Test |
| KET vs. ISO | 0,428 | 5 | 3,286 | 0,171 | Do Not Test |
| ISO vs. SEV | 0,0948 | 5 | 0,728 | 0,985 | Do Not Test |
| ISO vs. C | 0,0700 | 5 | 0,537 | 0,995 | Do Not Test |
| C vs. SEV | 0,0248 | 5 | 0,191 | 1,000 | Do Not Test |

Supplementary to Figure 3: Effect of inhaled anesthetics on ROS formation. Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Sections from the left lung lobe were stained by dihydroethidium (DHE). DHE fluorescence intensity was measured and expressed as fold induction compared to control group. a. One Way Analysis of Variance; b. Student-Newman-Keuls post hoc test; c. Tukeys post hoc test

Supplementary Figure 11

Glutathione intensity

a. One Way Analysis of Variance

Normality Test (Shapiro-Wilk) Passed (P = 0,996)
 Equal Variance Test: Passed (P = 0,229)

| Group Name | N | Missing | Mean | Std Dev | SEM |
|------------|---|---------|-------|---------|--------|
| C | 5 | 0 | 1,000 | 0,0748 | 0,0335 |
| KET | 5 | 0 | 0,924 | 0,270 | 0,121 |
| ISO | 5 | 0 | 1,750 | 0,305 | 0,137 |
| SEV | 5 | 0 | 1,387 | 0,128 | 0,0570 |
| DES | 5 | 0 | 0,732 | 0,340 | 0,152 |

| Source of Variation | DF | SS | MS | F | P |
|---------------------|----|-------|--------|--------|--------|
| Between Groups | 4 | 3,316 | 0,829 | 13,657 | <0,001 |
| Residual | 20 | 1,214 | 0,0607 | | |
| Total | 24 | 4,530 | | | |

b. All Pairwise Multiple Comparison Procedures (Student-Newman-Keuls Method) :

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|--------|-------------|
| ISO vs. DES | 1,017 | 5 | 9,233 | <0,001 | Yes |
| ISO vs. KET | 0,826 | 4 | 7,493 | <0,001 | Yes |
| ISO vs. C | 0,750 | 3 | 6,803 | <0,001 | Yes |
| ISO vs. SEV | 0,363 | 2 | 3,295 | 0,031 | Yes |
| SEV vs. DES | 0,654 | 4 | 5,938 | 0,002 | Yes |
| SEV vs. KET | 0,463 | 3 | 4,198 | 0,020 | Yes |
| SEV vs. C | 0,387 | 2 | 3,508 | 0,022 | Yes |
| C vs. DES | 0,268 | 3 | 2,431 | 0,223 | No |
| C vs. KET | 0,0761 | 2 | 0,690 | 0,631 | Do Not Test |
| KET vs. DES | 0,192 | 2 | 1,740 | 0,233 | Do Not Test |

c. All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

| Comparison | Diff of Means | p | q | P | P<0,050 |
|-------------|---------------|---|-------|--------|-------------|
| ISO vs. DES | 1,017 | 5 | 9,233 | <0,001 | Yes |
| ISO vs. KET | 0,826 | 5 | 7,493 | <0,001 | Yes |
| ISO vs. C | 0,750 | 5 | 6,803 | 0,001 | Yes |
| ISO vs. SEV | 0,363 | 5 | 3,295 | 0,177 | No |
| SEV vs. DES | 0,654 | 5 | 5,938 | 0,004 | Yes |
| SEV vs. KET | 0,463 | 5 | 4,198 | 0,053 | No |
| SEV vs. C | 0,387 | 5 | 3,508 | 0,135 | Do Not Test |
| C vs. DES | 0,268 | 5 | 2,431 | 0,446 | No |
| C vs. KET | 0,0761 | 5 | 0,690 | 0,988 | Do Not Test |
| KET vs. DES | 0,192 | 5 | 1,740 | 0,734 | Do Not Test |

Supplementary to Figure 4: Effect of inhaled anesthetics on glutathione production. Mice were either non-ventilated (control; C), or they received mechanical ventilation with 12 ml/kg for 6 h with air + ketamine (KET), air + isoflurane (ISO), air + sevoflurane (SEV), or air + desflurane (DES). Sections from the left lung lobe were stained by Thiol Tracker™ violet. Fluorescence intensity was measured and expressed as fold induction compared to control group. a. One Way Analysis of Variance; b. Student-Newman-Keuls post hoc test; c. Tukeys post hoc test.