

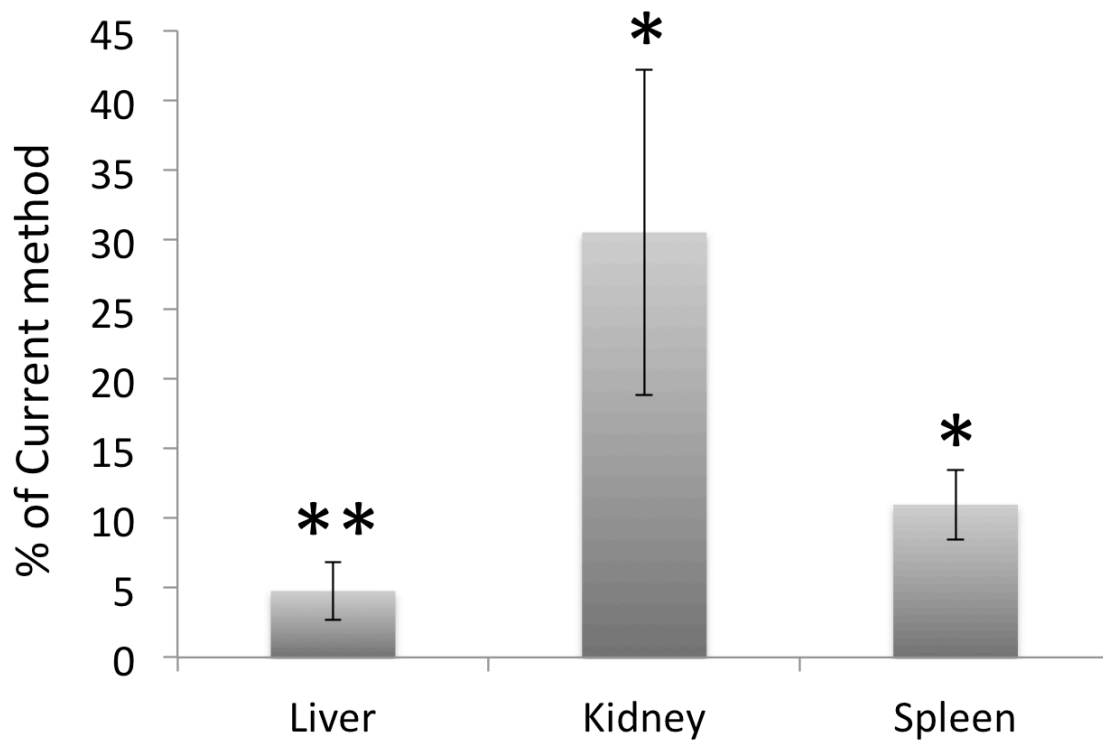
Title:

Estimation of the hydrogen concentration in rat tissue using an airtight tube following the administration of hydrogen via various routes

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Supplementary Figure 1



Supplementary Table 1

| HSRW/OP/5min | 0ppm | 1.25ppm | 2.5ppm | 5ppm |
|--------------|------|---------|--------|------|
| Blood | 4 | 6 | 6 | 12 |
| Liver | 4 | 6 | 6 | 12 |
| Kidney | 4 | 6 | 6 | 12 |
| Heart | 4 | 6 | 6 | 12 |
| Spleen | 4 | 6 | 6 | 12 |
| Pancreas | 4 | 6 | 6 | 12 |
| Intestine | 4 | 6 | 6 | 12 |
| Muscle | 4 | 6 | 6 | 9 |
| Brain | 4 | 6 | 6 | 9 |

| HSRS/IP/5min | 0ppm | 1.25ppm | 2.5ppm | 5ppm |
|--------------|------|---------|--------|------|
| Blood | 3 | 3 | 3 | 6 |
| Liver | 3 | 3 | 3 | 6 |
| Kidney | 3 | 3 | 3 | 6 |
| Heart | 3 | 3 | 3 | 6 |
| Spleen | 3 | 3 | 3 | 6 |
| Pancreas | 3 | 3 | 3 | 6 |
| Intestine | 3 | 3 | 3 | 6 |
| Muscle | 3 | 3 | 3 | 3 |
| Brain | 3 | 3 | 3 | 3 |

| HSRS/IV/1min | 0ppm | 1.25ppm | 2.5ppm | 5ppm |
|--------------|------|---------|--------|------|
| Blood | 5 | 3 | 3 | 9 |
| Liver | 5 | 3 | 3 | 9 |
| Kidney | 5 | 3 | 3 | 9 |
| Heart | 5 | 3 | 3 | 9 |
| Spleen | 5 | 3 | 3 | 9 |
| Pancreas | 5 | 3 | 3 | 9 |
| Intestine | 5 | 3 | 3 | 9 |
| Muscle | 5 | 3 | 3 | 9 |
| Brain | 5 | 3 | 3 | 9 |

| Hydrogen gas/30min | 0% | 1% | 2% | 4% |
|--------------------|----|----|----|----|
| Blood | 5 | 3 | 6 | 3 |
| Liver | 5 | 3 | 6 | 3 |
| Kidney | 5 | 3 | 6 | 3 |
| Heart | 5 | 3 | 6 | 3 |
| Spleen | 5 | 3 | 6 | 3 |
| Pancreas | 5 | 3 | 6 | 3 |
| Intestine | 5 | 3 | 6 | 3 |
| Muscle | 5 | 3 | 6 | 3 |
| Brain | 5 | 3 | 6 | 3 |

Supplementary Table 2

| HSRW/OP/5ppm | 0min | 5min | 15min | 30min | 60min |
|--------------|------|------|-------|-------|-------|
| Blood | 4 | 12 | 9 | 9 | 9 |
| Liver | 4 | 12 | 9 | 9 | 9 |
| Kidney | 4 | 12 | 9 | 9 | 9 |
| Heart | 4 | 12 | 9 | 9 | 9 |
| Spleen | 4 | 12 | 9 | 9 | 9 |
| Pancreas | 4 | 12 | 9 | 9 | 9 |
| Intestine | 4 | 12 | 9 | 9 | 9 |
| Muscle | 4 | 9 | 9 | 6 | 6 |
| Brain | 4 | 9 | 9 | 6 | 6 |

| HSRS/IP/5ppm | 0min | 5min | 15min | 30min | 60min |
|--------------|------|------|-------|-------|-------|
| Blood | 3 | 6 | 3 | 6 | 6 |
| Liver | 3 | 6 | 3 | 6 | 6 |
| Kidney | 3 | 6 | 3 | 6 | 6 |
| Heart | 3 | 6 | 3 | 6 | 6 |
| Spleen | 3 | 6 | 3 | 6 | 6 |
| Pancreas | 3 | 6 | 3 | 6 | 6 |
| Intestine | 3 | 6 | 3 | 6 | 6 |
| Muscle | 3 | 3 | 3 | 3 | 3 |
| Brain | 3 | 3 | 3 | 3 | 3 |

| HSRS/IV/5ppm | 0min | 1min | 3min | 5min |
|--------------|------|------|------|------|
| Blood | 5 | 9 | 5 | 3 |
| Liver | 5 | 9 | 5 | 3 |
| Kidney | 5 | 9 | 5 | 3 |
| Heart | 5 | 9 | 5 | 3 |
| Spleen | 5 | 9 | 5 | 3 |
| Pancreas | 5 | 9 | 5 | 3 |
| Intestine | 5 | 9 | 5 | 3 |
| Muscle | 5 | 9 | 5 | 3 |
| Brain | 5 | 9 | 5 | 3 |

| Hydrogen gas/4% | 0min | 30min | 60min |
|-----------------|------|-------|-------|
| Blood | 5 | 3 | 3 |
| Liver | 5 | 3 | 3 |
| Kidney | 5 | 3 | 3 |
| Heart | 5 | 3 | 3 |
| Spleen | 5 | 3 | 3 |
| Pancreas | 5 | 3 | 3 |
| Intestine | 5 | 3 | 3 |
| Muscle | 5 | 3 | 3 |
| Brain | 5 | 3 | 3 |

Supplementary figure legends

Supplementary Figure 1: Comparison of the hydrogen concentration in tissues after oral administration of HSRW with and without hermetic condition. The concentration of hydrogen levels in tissues of liver, kidney and spleen at 5min after oral administration of 5 ppm HSRW was determined with and without cap of airtight tube. All experiment data were expressed % of hydrogen concentration of the current method using airtight tube with cap. Data were expressed as the mean \pm SEM (n=4). * $P < 0.05$ and ** $P < 0.005$ vs. value in current method.

Supplementary table legends

Table 1: the number of rat in results that demonstrated that the concentration of hydrogen levels in the blood and tissue was dose-dependent on the HSRW/HSRS and hydrogen gas administration.

Table 2: the number of rat in results that demonstrated that the concentration of hydrogen levels in the blood and tissue was time-dependent after the HSRW/HSRS and hydrogen gas administration.