**Table S1.** The ELISA kits used for the determination of antioxidant status in the presented study.

| | Antigen | ELISA kit catalogue number | Manufacturer, country | Assay range (pg/ml) |
|---|---|---|---|---|
| 1. | Rat PTGS1 ELISA Kit | orb566784 | Biorbyt, UK | 0.156–10 ng/mL<br>Intra–Assay: CV<8%<br>Inter–Assay: CV<10% |
| 2. | Rat PTGS2 ELISA Kit | orb1199748 | Biorbyt, UK | 78.1–5000 pg/mL<br>Intra–Assay: CV<10%<br>Inter–Assay: CV<12% |
| 3. | Rat HO–1 ELISA Kit | orb567452 | Biorbyt, UK | 0.156–10 ng/mL<br>Intra–Assay: CV<8%<br>Inter–Assay: CV<10% |
| 4. | Rat NOS3 ELISA Kit | orb566738 | Biorbyt, UK | 15.625–1000 pg/mL<br>Intra–Assay: CV<8%<br>Inter–Assay: CV<10% |
| 5. | Rat GAPDH ELISA Kit | orb567887 | Biorbyt, UK | 0.156–11 ng/mL<br>Intra–Assay: CV<8%<br>Inter–Assay: CV<10% |
| 6. | Rat ICAM–1 ELISA Kit | RAB0221–1KT | Sigma–Aldrich, Germany | 28.81–7000 pg/mL<br>inter–assay cv: <12%<br>intra–assay cv: <10% |

**Table S2.** Significant differences not detected.

| | 100% – Group A | | | 200% – Group B | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | n | Mean | "Std. Deviation" | n | Mean | "Std. Deviation" | t test | p value | x–fold (B/A) |
| Body weight begin (g) | 12 | 492.4 | 32.84 | 12 | 497.6 | 33.75 | Unpaired t test | 0.7080 | 1.0 |
| Body weight final (g) | 11 | 530.3 | 39.80 | 12 | 536.5 | 34.54 | Mann Whitney test | 0.7859 | 1.0 |
| Body weight gain (g) | 11 | 37.16 | 27.51 | 12 | 38.89 | 42.29 | Unpaired t test | 0.9093 | 1.0 |
| Fat (g) | 11 | 92.52 | 23.31 | 11 | 84.19 | 22.83 | Unpaired t test | 0.4072 | 0.9 |
| Fat (%) | 11 | 17.25 | 3.224 | 11 | 15.85 | 4.231 | Unpaired t test | 0.3929 | 0.9 |
| Lean (g) | 11 | 323.1 | 16.21 | 11 | 329.5 | 25.44 | Unpaired t test | 0.4946 | 1.0 |
| Lean (%) | 11 | 61.06 | 2.273 | 11 | 61.96 | 3.158 | Unpaired t test | 0.4490 | 1.0 |
| F/L ratio | 11 | 0.285 | 0.063 | 11 | 0.258 | 0.076 | Mann Whitney test | 0.6063 | 0.9 |
| Heart (g) | 11 | 1.110 | 0.074 | 12 | 1.140 | 0.120 | Unpaired t test | 0.4810 | 1.0 |
| Liver small + large part(g) | 11 | 22.92 | 3.302 | 12 | 22.94 | 2.995 | Unpaired t test | 0.9886 | 1.0 |
| Spleen (g) | 11 | 0.882 | 0.183 | 12 | 0.900 | 0.209 | Mann Whitney test | 0.9879 | 1.0 |
| Kidney (g) | 11 | 2.476 | 0.262 | 12 | 2.576 | 0.531 | Mann Whitney test | 0.9279 | 1.0 |
| Brain (g) | 11 | 2.028 | 0.086 | 12 | 2.042 | 0.090 | Unpaired t test | 0.7151 | 1.0 |
| Fe (mg/L) | 10 | 2.317 | 0.449 | 11 | 2.349 | 0.391 | Unpaired t test | 0.8643 | 1.0 |
| Se (ug/L) | 10 | 361.2 | 42.17 | 11 | 362.2 | 66.01 | Unpaired t test | 0.9689 | 1.0 |
| Cu/Se (ratio) | 10 | 2.813 | 0.5421 | 12 | 3.702 | 1.620 | Mann Whitney test | 0.1335 | 1.3 |
| Se/Zn (ratio) | 10 | 0.377 | 0.048 | 11 | 0.356 | 0.067 | Unpaired t test | 0.4348 | 0.9 |
| Zn (μg/g of liver tissue) | 9 | 23.14 | 1.151 | 10 | 24.30 | 1.328 | Unpaired t test | 0.0589 | 1.1 |
| Fe (μg/g of liver tissue) | 9 | 107.1 | 13.71 | 10 | 114.3 | 25.01 | Unpaired t test | 0.4581 | 1.1 |
| Se (μg/g of liver tissue) | 9 | 0.7519 | 0.064 | 10 | 0.7694 | 0.082 | Unpaired t test | 0.6132 | 1.0 |
| HO–1 (ng/mL) | 10 | 1.606 | 0.539 | 11 | 1.979 | 0.962 | Mann Whitney test | 0.3867 | 1.2 |
| NOS3 (pg/mL) | 10 | 92.18 | 20.85 | 12 | 86.32 | 27.67 | Unpaired t test | 0.5749 | 0.9 |
| iCAM (pg/mL) | 10 | 70.99 | 16.80 | 10 | 97.60 | 23.50 | Unpaired t test | 0.9638 | 1.4 |

n varies: rat died and/or a simple lab mistake occurred

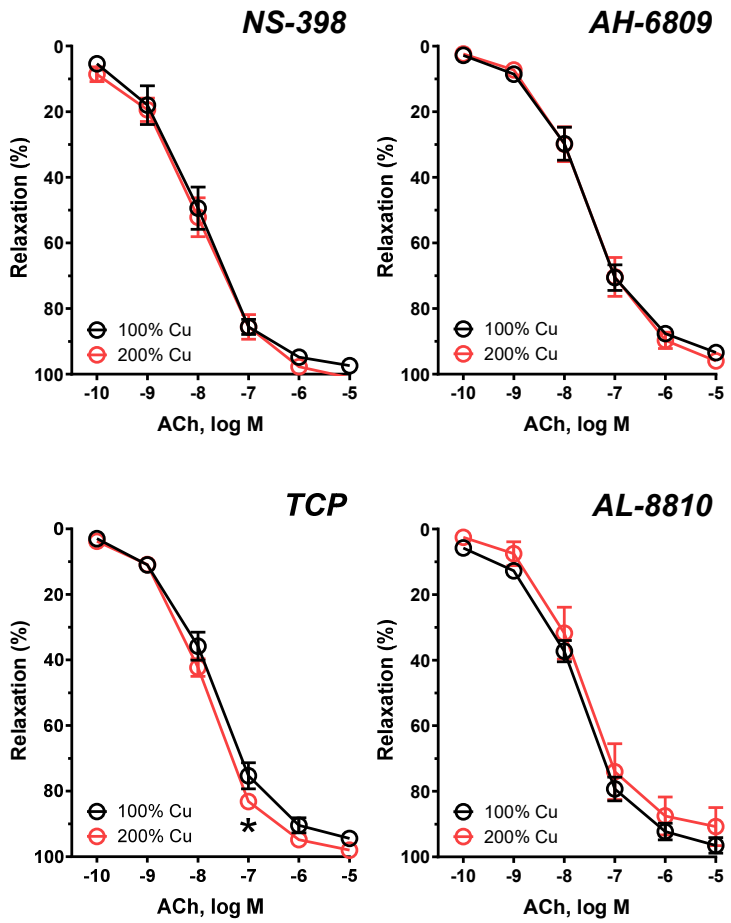


**Figure S1.** The cumulative concentration–response curves to acetylcholine (ACh, 0.1 nM–10 μM) in the isolated thoracic arteries dissected from rats fed with experimental diets. Aortic rings were incubated with NS–398, AH–6809, TCP and AL–8810. Values are means ± SEM, n = 12, * vs. control diet (100% copper), $p \leq 0.05$ (two–way ANOVA with Šídák's multiple comparisons test).

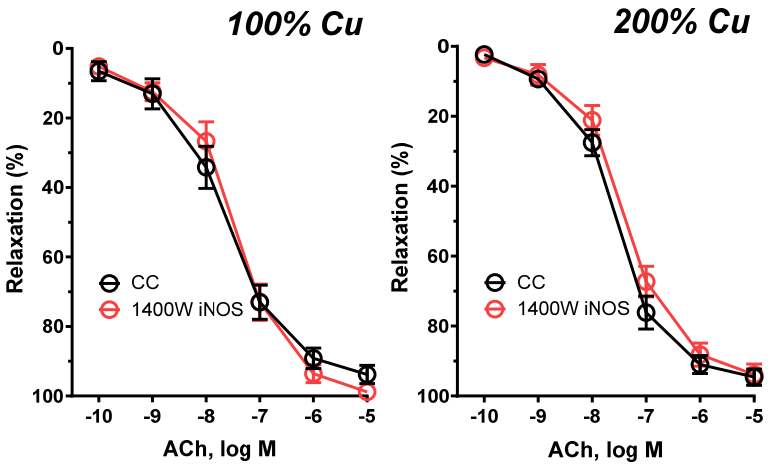


**Figure S2.** The cumulative concentration–response curves to acetylcholine (ACh, 0.1 nM–10 μM) in the isolated thoracic arteries dissected from rats fed with experimental diets. Aortic rings were incubated with 1400W. Values are means ± SEM, n = 12 (n varies), * vs. control conditions, $p \leq 0.05$ (two–way ANOVA with Šídák's multiple comparisons test).