SUPPLEMENTARY MATERIAL

Reformulated meat products protect against ischemia-induced cardiac damage

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Supplementary figure 1. Effect of digested meat extracts in absence of ischemic damage. HL-1 cells were pre-treated with 1:5 (v:v, food extract: culture medium) dilution of each digested food extract for 24 hours under normoxic conditions. After that, food extracts were removed and cells incubated 15 hours under normoxic conditions. The sole administration of any digested food extract (1:5, food extract: culture medium) or EGCG (30 μM) had no effect on ROS levels (A), MDA levels (B), Gpx3 activity (C), catalase activity (D) or cell viability (E) compared with untreated cells (control). Arbitrary units: a.u.; Glutathione peroxidase 3: Gpx3.
Supplementary figure 2. Preventive effect of digested meat extracts against the increase of ROS level induced by ischemia. ROS level was visualized by confocal microscopy in untreated HL-1 cells (normoxia), HL-1 cells subjected to ischemia for 15 h and HL-1 cells pretreated with 1:5 (v:v, food extract:culture medium) dilution of each digested food extract for 24 h before ischemia induction. 30 µM EGCG, as positive control of cardioprotection. Scale bar 70 µm.
Supplementary figure 3. Preventive effect of digested meat extracts against ischemia-induced cardiomyocyte death. Cell viability was measured by CFDA-SE assay as described in Methods. The dot plots are representative of untreated HL-1 cells (normoxia), HL-1 cells under ischemia conditions for 15 h or HL-1 cells pretreated with 1:5 (v:v, food extract:culture medium) dilution of each digested food extract for 24 h and subsequent induction of ischemia for 15 h. Cell viability data are shown as percentage of fluorescence compared with control. 30 µM EGCG was used as positive control of cardioprotection. Ischemia: I.
Supplementary figure 4. Preventive effect of non-digested meat extracts against ischemia-induced damage in cardiomyocyte. ROS levels (A), the activity of antioxidant enzymes GpX-3 (B) and catalase (C) and cell viability by MTT (D) were measured in untreated HL-1 cells (normoxia), HL-1 cells subjected to ischemia for 15 h and HL-1 cells pretreated with 1:5 (v:v, food extract:culture medium) dilution of each non-digested food extract for 24 h before ischemia induction. 30 µM EGCG was used as positive control of antioxidative effect. Arbitrary units: a.u. Glutathione peroxidase 3: Gpx3. ***p<0.001 vs. normoxia, #p<0.05, ##p<0.01, ###p<0.001 vs. ischemia.