

1 **SUPPLEMENTARY MATERIAL**

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3 **Reformulated meat products protect against ischemia-induced cardiac damage**

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12 # Contributed equally

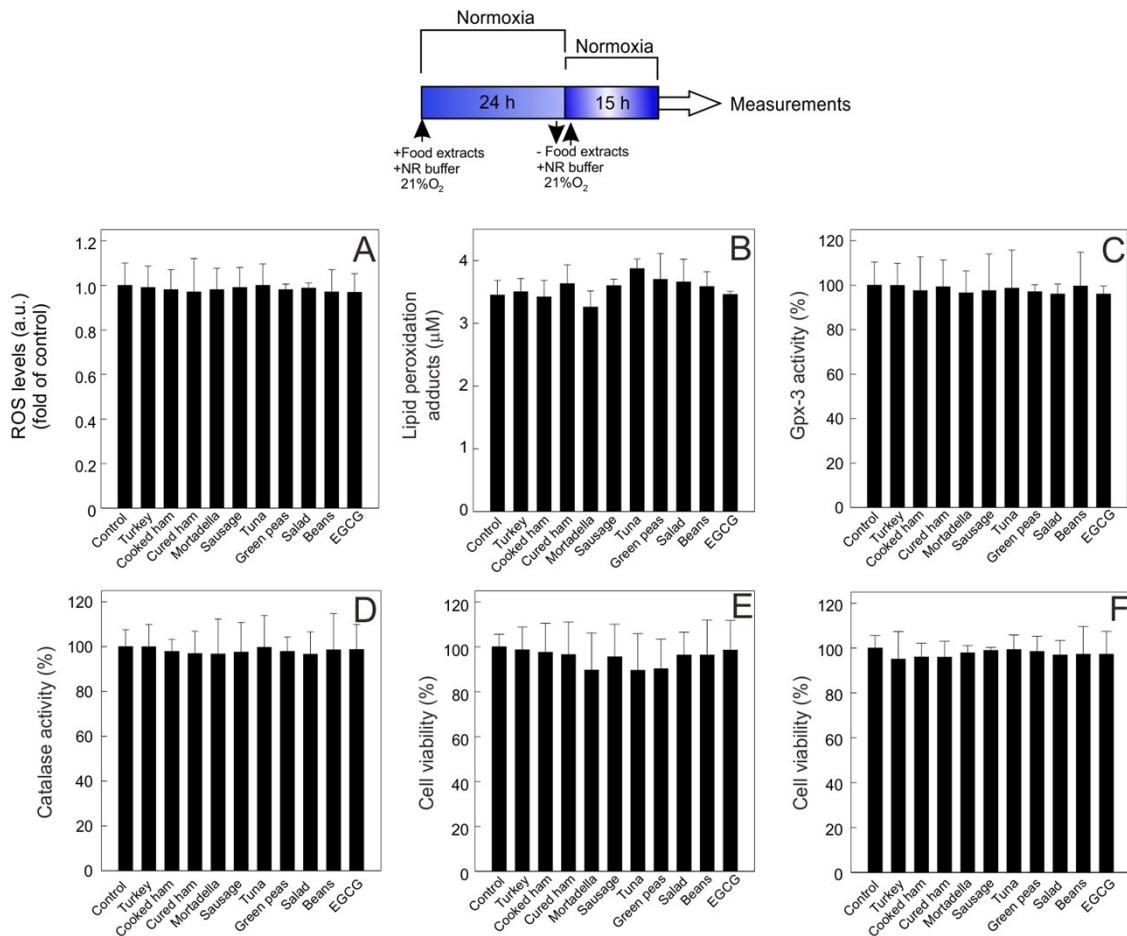
13 \*Corresponding author

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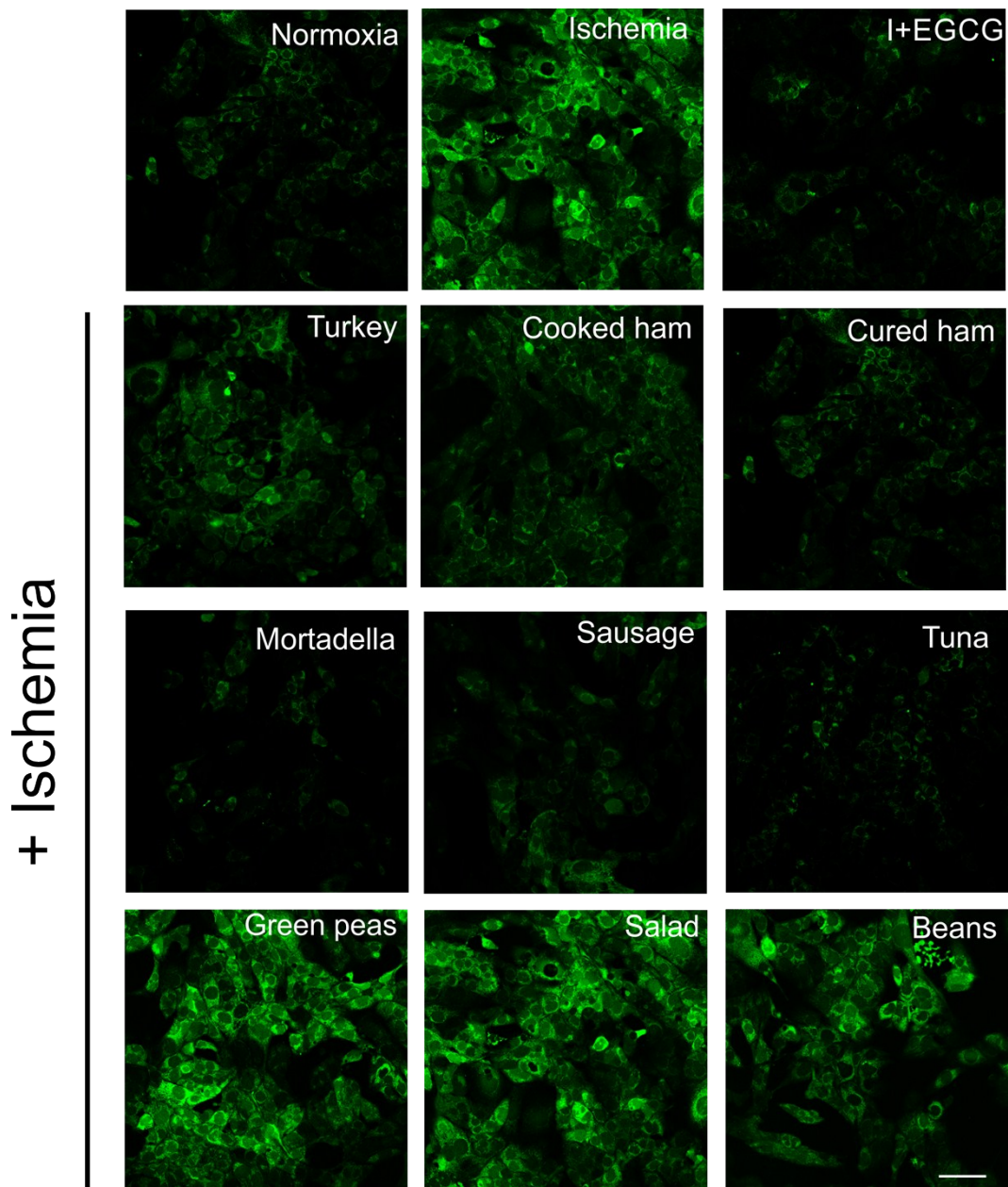
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20 **Supplementary figure 1.** Effect of digested meat extracts in absence of ischemic  
21 damage. HL-1 cells were pre-treated with 1:5 (v:v, food extract: culture medium)  
22 dilution of each digested food extract for 24 hours under normoxic conditions. After  
23 that, food extracts were removed and cells incubated 15 hours under normoxic  
24 conditions. The sole administration of any digested food extract (1:5, food  
25 extract:culture medium) or EGCG (30  $\mu\text{M}$ ) had no effect on ROS levels (A), MDA  
26 levels (B), Gpx3 activity (C), catalase activity (D) or cell viability (E) compared with  
27 untreated cells (control). Arbitrary units: a.u.; Glutathione peroxidase 3: Gpx3.

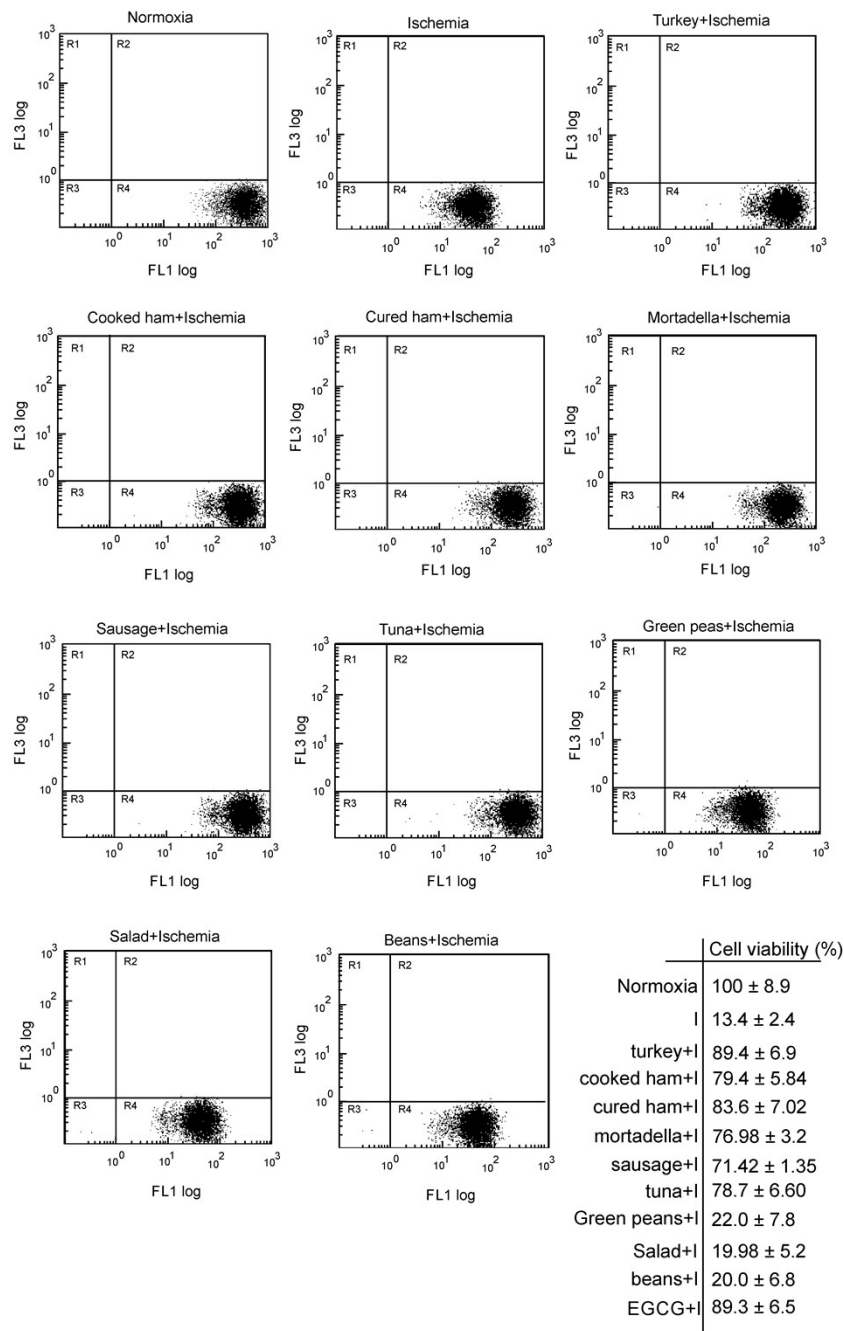


28 **Supplementary figure 2.** Preventive effect of digested meat extracts against the  
 29 increase of ROS level induced by ischemia. ROS level was visualized by confocal  
 30 microscopy in untreated HL-1 cells (normoxia), HL-1 cells subjected to ischemia for 15  
 31 h and HL-1 cells pretreated with 1:5 (v:v, food extract: culture medium) dilution of each  
 32 digested food extract for 24 h before ischemia induction. 30  $\mu\text{M}$  EGCG, as positive  
 33 control of cardioprotection. Scale bar 70  $\mu\text{m}$ .

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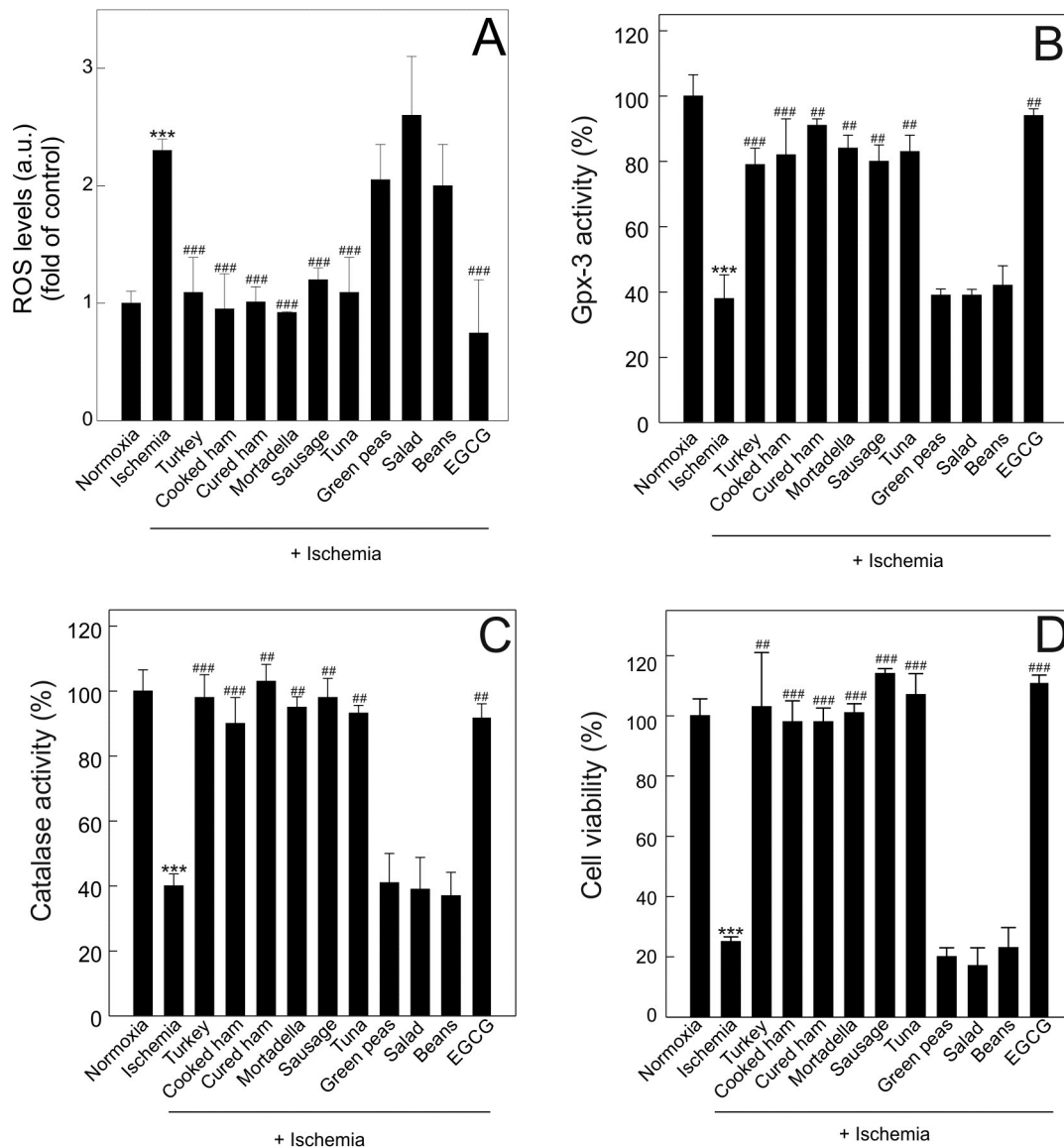
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61 **Supplementary figure 3.** Preventive effect of digested meat extracts against ischemia-  
62 induced cardiomyocyte death. Cell viability was measured by CFDA-SE assay as  
63 described in Methods. The dot plots are representative of untreated HL-1 cells  
64 (normoxia), HL-1 cells under ischemia conditions for 15 h or HL-1 cells pretreated with  
65 1:5 (v:v, food extract:culture medium) dilution of each digested food extract for 24 h  
66 and subsequent induction of ischemia for 15 h. Cell viability data are shown as  
67 percentage of fluorescence compared with control. 30  $\mu$ M EGCG was used as positive  
68 control of cardioprotection. Ischemia: I.  
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73 **Supplementary figure 4.** Preventive effect of non-digested meat extracts against  
74 ischemia-induced damage in cardiomyocyte. ROS levels (A), the activity of antioxidant  
75 enzymes GpX-3 (B) and catalase (C) and cell viability by MTT (D) were measured in  
76 untreated HL-1 cells (normoxia), HL-1 cells subjected to ischemia for 15 h and HL-1  
77 cells pretreated with 1:5 (v:v, food extract: culture medium) dilution of each non-  
78 digested food extract for 24 h before ischemia induction. 30  $\mu$ M EGCG was used as  
79 positive control of antioxidative effect. Arbitrary units: a.u. Glutathione peroxidase 3:  
80 Gpx3. \*\*\* $p$ <0.001 vs. normoxia. # $p$ <0.05, ## $p$ <0.01, ### $p$ <0.001 vs. ischemia.