Electronic Supplementary Material (ESI) for Food & Function. This journal is © The Royal Society of Chemistry 2020

## Improved effect of Lactobacillus fermentum KP-3-fermented ginseng on

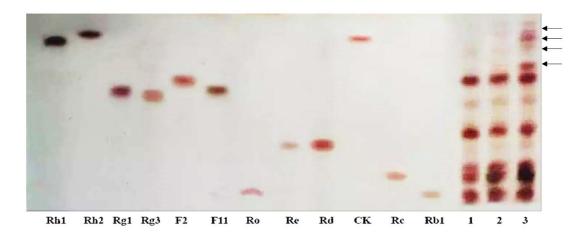
- 2 alcohol-induced liver injury by AMPK pathway and MAPK pathways
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- 9 # Equal contribution

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Fig. S1



**Fig. S1** Ginsenoside levels identified by TLC. 1: Sterilized ginseng; 2: Unfermented ginseng with the same process of fermented one without KP-3; 3: KP-3 fermented ginseng.

Fig. S2

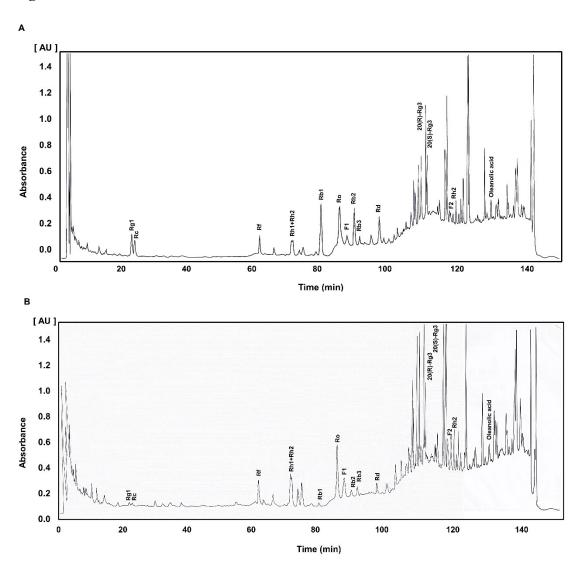
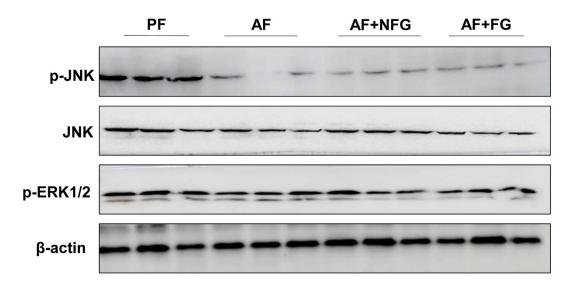


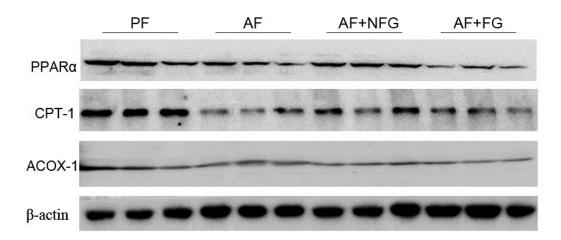
Fig. S2 The HPLC chromatogram of non-fermented ginseng (A) and fermented ginseng (B).

Fig. S3



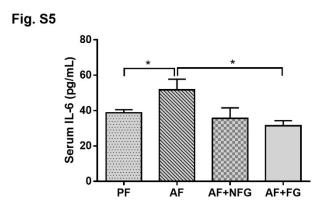
**Supplemental Fig. S3** Effects of *L. fermentum* KP-3-fermented ginseng on MAPK pathways in alcohol-induced liver injury mice. The proteins expression of p-JNK, JNK, p-ERK; β-actin was used as a control for the protein blots. PF: pair-feed group; AF: alcohol-feed group; AF+NFG: alcohol supplemented with non-fermented ginseng group; AF+FG: alcohol supplemented with *L. fermentum* KP-3-fermented ginseng.

Fig. S4



**Supplemental Fig. S4** Effects of *L. fermentum* KP-3-fermented ginseng on lipid oxidation in alcohol-induced liver injury mice. The proteins expression of PPAR-α, CPT-1, ACOX-1; β-actin was used as a control for the protein blots. PF: pair-feed group; AF: alcohol-feed group; AF+NFG: alcohol supplemented with non-fermented ginseng group; AF+FG: alcohol supplemented with *L. fermentum* KP-3-fermented ginseng.

Fig. S5



**Supplemental Fig. S5** Effects of *L. fermentum* KP-3-fermented ginseng on serum IL-6 level. PF: pair-feed group; AF: alcohol-feed group; AF+NFG: alcohol supplemented with non-fermented ginseng group; AF+FG: alcohol supplemented with *L. fermentum* KP-3-fermented ginseng.