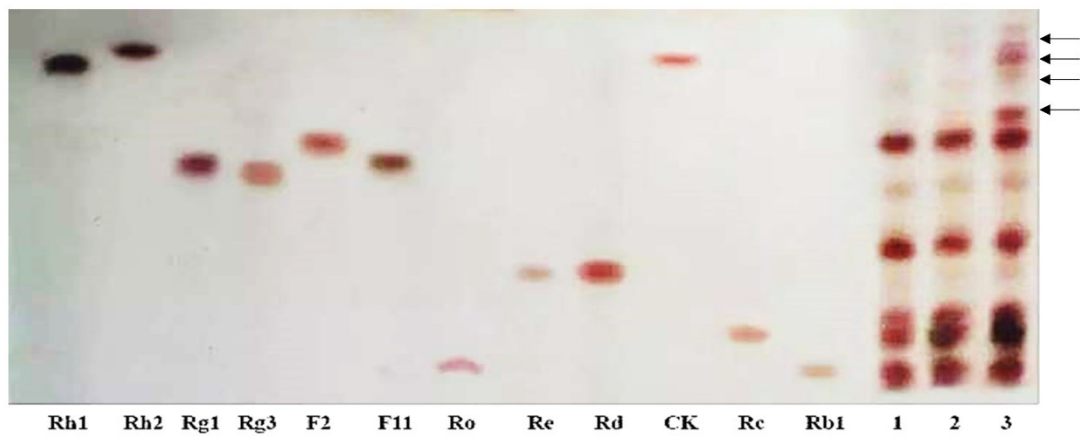


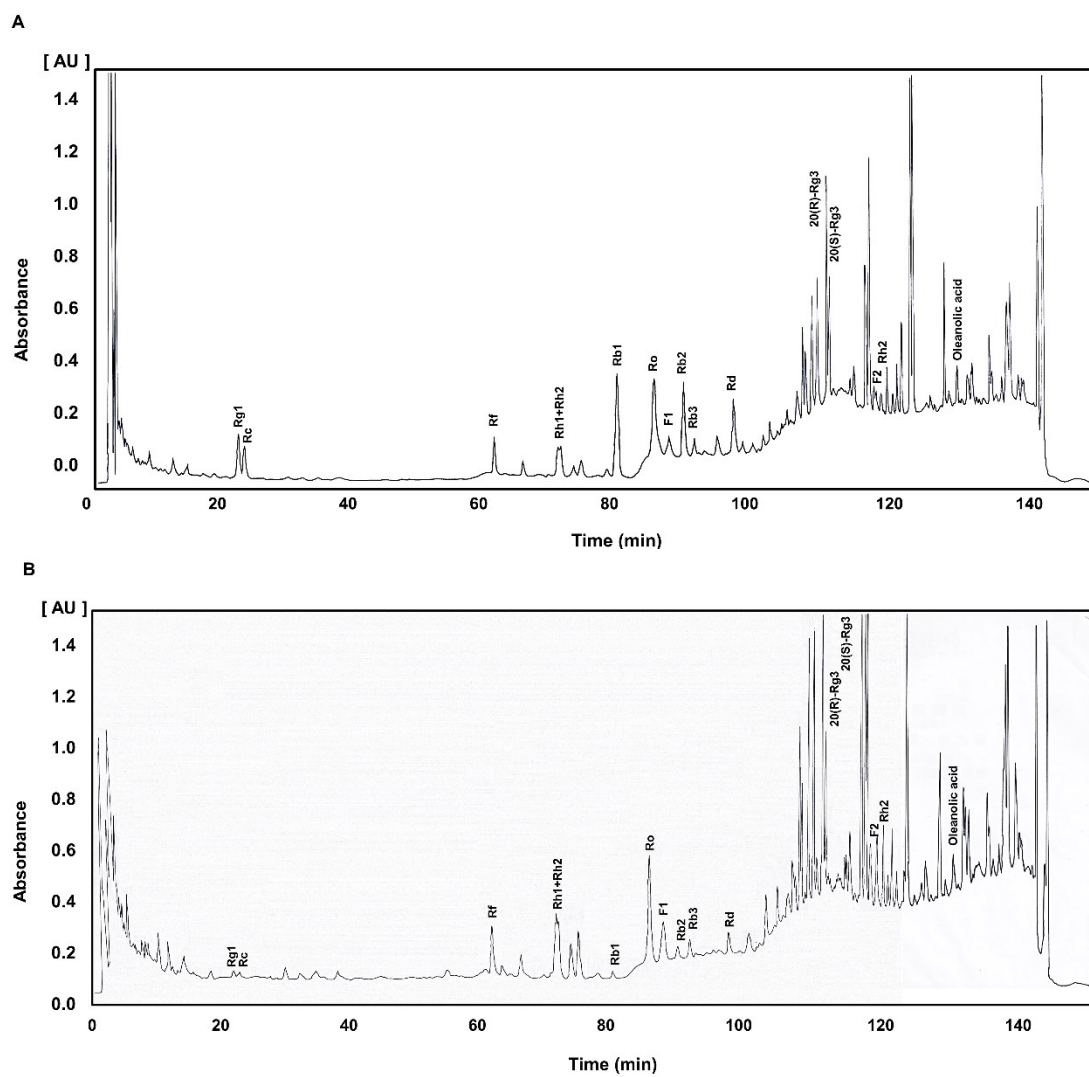


**Fig. S1**



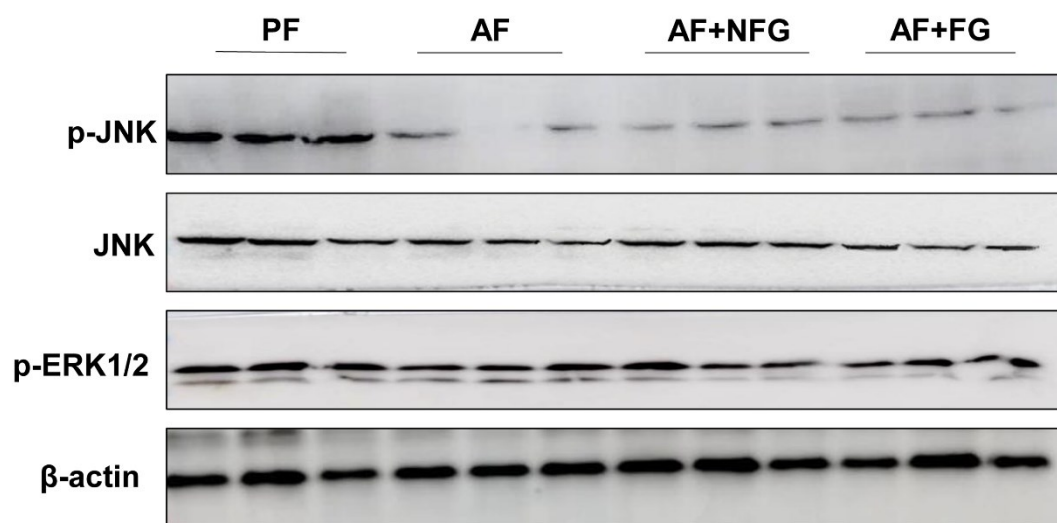
**Fig. S1** Ginsenoside levels identified by TLC. 1: Sterilized ginseng; 2: Unfermented ginseng with the same process of fermented one without KP-3; 3: KP-3 fermented ginseng.

**Fig. S2**



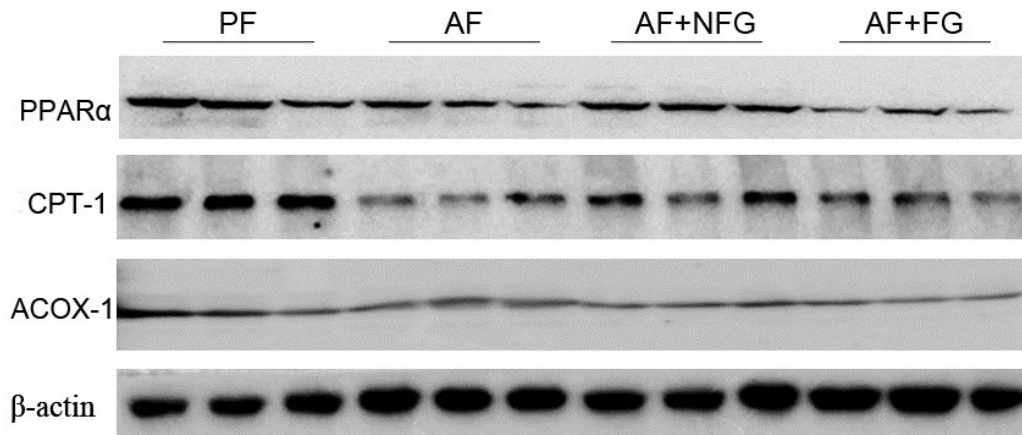
**Fig. S2** The HPLC chromatogram of non-fermented ginseng (A) and fermented ginseng (B).

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;  $\beta$ -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.

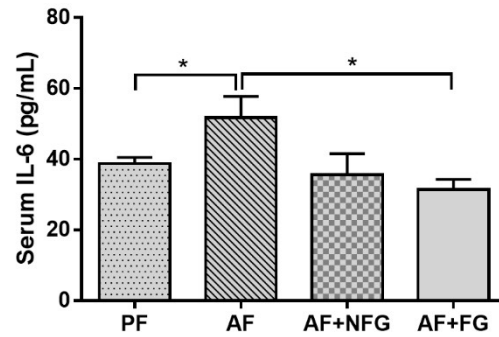
**Fig. S4**



**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- $\alpha$ , CPT-1, ACOX-1;  $\beta$ -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

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.