Determination of vinegar extract

A high-performance liquid chromatography (HPLC) (Agilent Technologies Inc., Palo alto, California, USA) was used for identification and quantification of major bioactive compositions of vinegar extract. Briefly, SAVE samples were diluted with 50 % methanol (v/v), and injected into the HPLC system. Separation was performed by reverse phase column (Luna C18 (2), 250 × 4.6 mm, 4 μm, Phenomenex, Torrance, CA, USA). The gradient elution included water/acetic acid (98:2, *v*/*v*, solvent A) and water/acetonitrile/acetic acid (73:25:2, *v*/*v*/*v*, solvent B) as mobile phase at 1.00 mL/min. The elution time of solvent B was: 0-19 min, 4-5 % B; 46-59 min, 15-20 % B; 59–61 min, 10-20 % B, 64 min, 5 % B, and held for 5 min. The column temperature was 30 °C and the injected volume 20 μL, and ultraviolet detection wavelengths were 278 nm. Identification of bioactive compositions were performed by comparing their retention time with the standard compounds. The results were expressed as mg/L. As shown in Table S1, the bioactive compounds of SAVE mainly contained gallic acid, *p*-hydroxybenzoic acid, catechins, chlorogenic acid, vanillic acid, caffeic acid, syringic acid, *p*-coumaric acid, ferulic acid, sinapic acid and rutin. The content of catechins (176.06 ± 0.66 mg/L) was the highest among the compositions, followed by gallic acid (89.40 ± 0.10 mg/L), *p*-hydroxybenzoic acid (60.43 ± 0.33 mg/L), and caffeic acid (60.32 ± 0.01 mg/L).

Table S1 The main bioactive compositios of vinegar extract [1]

Compositions	Retention time (min)	Content (mg/L)
Catechins	16.35 ± 0.12	176.06 ± 0.66
Gallic acid	6.06 ± 0.21	89.40 ± 0.10
p-hydroxybenzoic acid	14.75 ± 0.35	60.43 ± 0.33
Caffeic acid	20.22 ± 0.24	60.32 ± 0.01
Chlorogenic acid	17.16 ± 0.25	22.55 ± 0.11
p-coumaric acid	25.95 ± 0.15	14.34 ± 0.01
Vanillic acid	18.51 ± 0.14	12.55 ± 0.06
Ferulic acid	29.40 ± 0.30	10.22 ± 0.02

[1]Date in the table are represent mean ± S.D. (n = 3).

Figure legend

Fig. S1. The effect of SAVE on alcohol-induced liver damage in mice. H&E-stained liver tissues were observed by microscopy (400 × magnification) in control group (A), alcohol group (B), alcohol + SAVE (250 mg/kg b.w.) group (C), alcohol + SAVE (500 mg/kg b.w.) group (D), alcohol + SAVE (750 mg/kg b.w.) group (E).