Electronic Supplementary Material (ESI) for Food & Function.

SUPPORTING INFORMATION

The preventive effect of Chinese sumac fruits against monosodium urate-induced gouty arthritis in rats through regulating several inflammatory pathways

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Characterization of the major bioactive compounds in the ethanol extract of Chinese sumac fruits

The major bioactive compounds in the ethanol extract of Chinese sumac fruits were firstly separated by using a Thermo Fisher Ultimate 3000 UHPLC System (Thermo Fisher Scientific, Germany) with an Agilent Zorbax SB-C18 column (1.7 μm, 2.1 mm × 100 mm), and then characterized by a Q-Exactive Orbitrap mass spectrometer (Thermo Fisher Scientific, Bremen, Germany) in the negative mode. The HPLC parameters were as follows: mobile phases, 0.1% formic acid in water (A) and acetonitrile (B); flow rate, 0.1 mL/min; elution procedure, 0–2min, 5% B; 2–8 min, 5%–30% B; 8–12 min, 30%–50% B; 12-18 min, 50%; 18-20 min, 50%-5%; 20-22 min, 5%; column temperature, 30°C; volume of sample injection, 2.0 μL. Mass parameters were set as follows: full MS scan range, 50–1000 m/z; auxiliary gas flow, 9 L/min; sheath gas flow rate, 33 L/min; sweep gas, 4 L/min; S-lens RF level, 50%; spray voltage, 3.3 kV, capillary temperature, 330 °C; heater temperature, 360 °C.

Fig. S1 Chromatogram of ethanol extract from Chinese sumac fruits. Peak identification and their MS data are shown in Table S1.

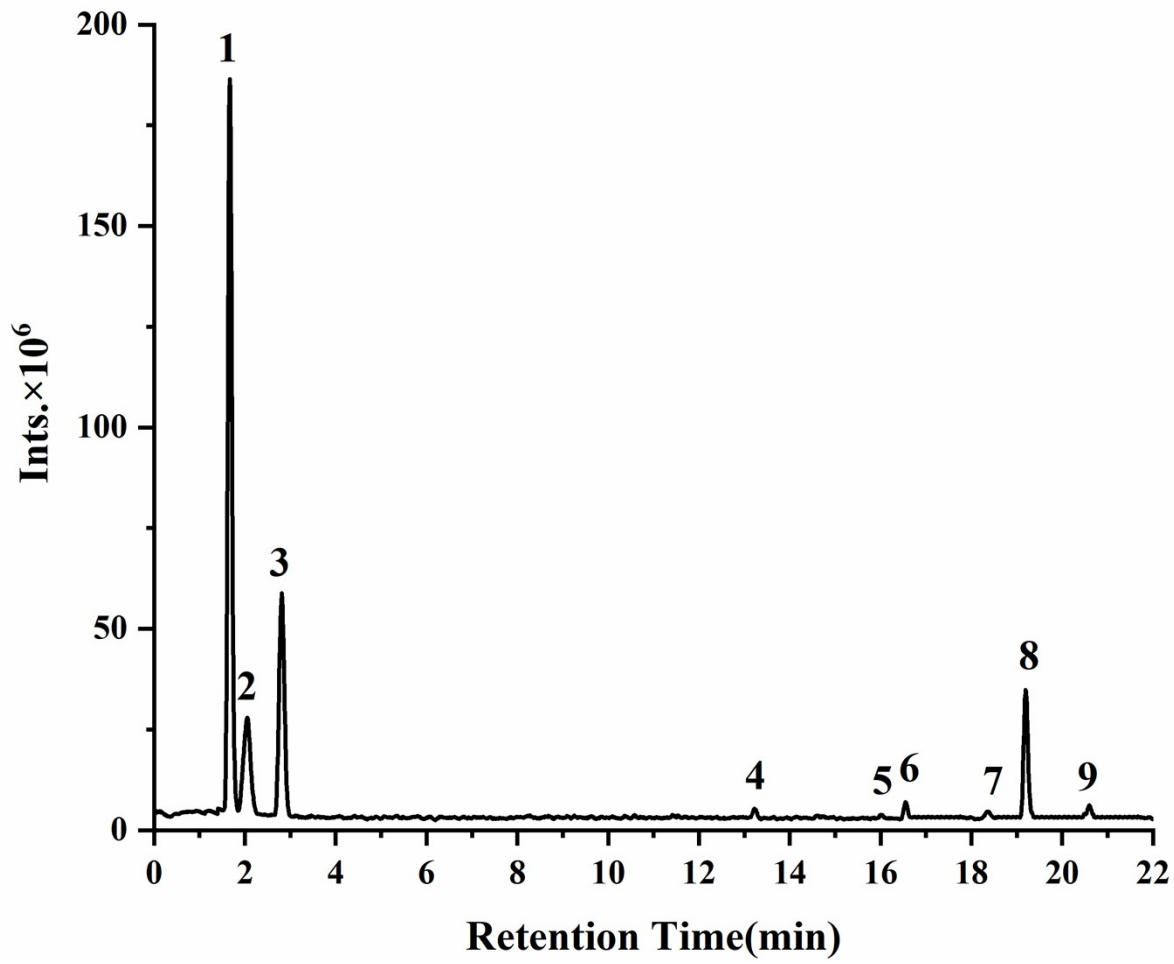
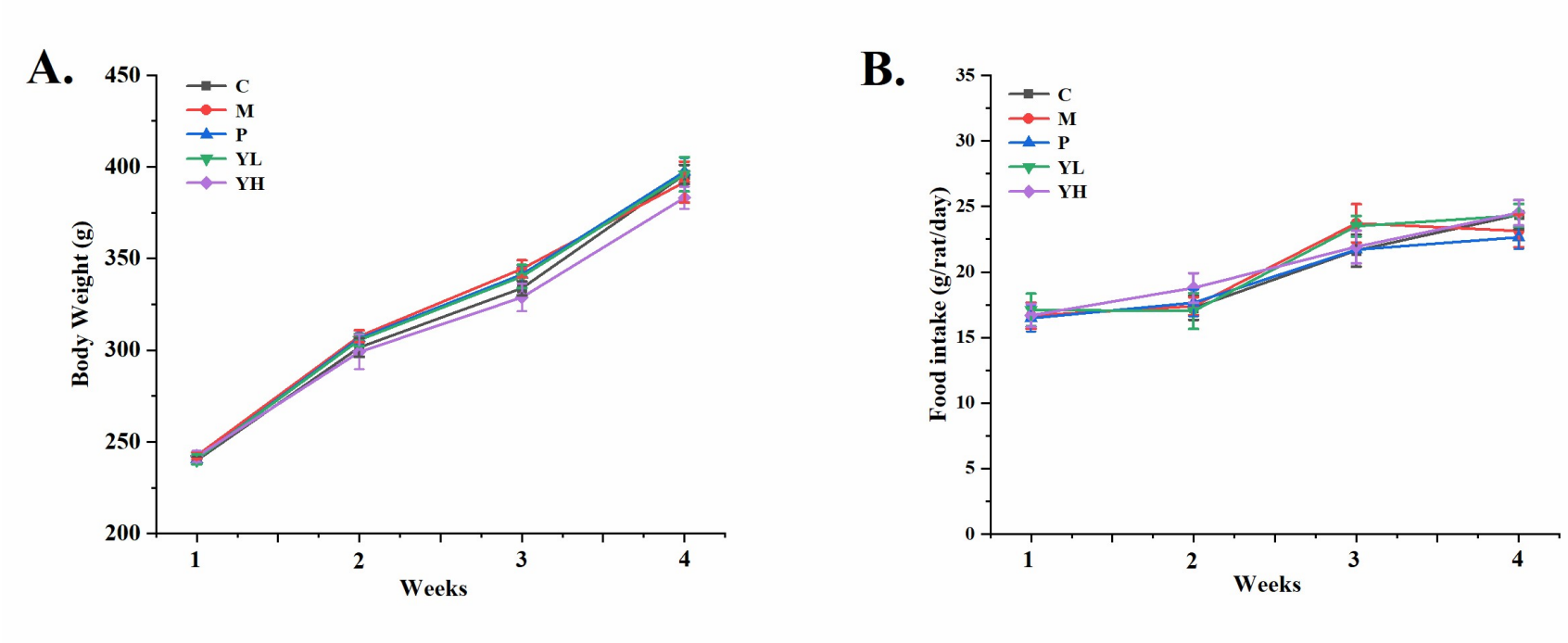


Table S1 Phytochemical identification of the ethanol extract from Chinese sumac fruits by UHPLC-ESI-HRMS/MS

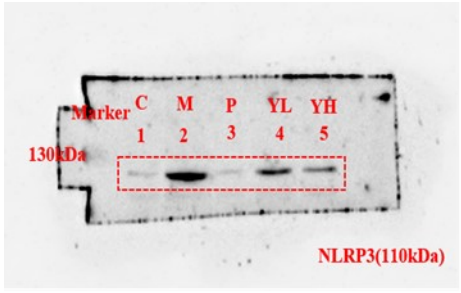
Peak No.	Compounds	RT (min)	Molecular formula	$[M-H]^-$ (m/z)	MS/MS ion fragments	μg/g of dry extract	Average percentage (%, Total identified phenolic content)
1	Malic acid	1.35	$C_4H_6O_5$	133.0131	71.0123(100),72.9919(21.47)	---	---
2	Citric acid	1.77	$C_6H_8O_7$	191.019	87.0073(100),57.0332(69.97)	---	---
3	Gallic acid	2.67	$C_7H_6O_5$	169.0134	69.0332(100),124.0153(68.27)	6093.66±331.17	66.08
4	Trigalloyl glucose	13.23	$C_{27}H_{24}O_{18}$	635.0901	169.0132(100),168.0054(8.65)	343.30±11.74	3.72
5	Myricetin-3-*O*-rhamnoside	16.05	$C_{21}H_{20}O_{12}$	463.0889	316.0223(100),317.0275(29.81)	143.53±16.45	1.56
6	Luteolin-7-*O*-glucoside	16.55	$C_{21}H_{20}O_{11}$	447.0938	146.9601(10),61.9870(81.04)	944.05±49.25	10.24
7	Myricetin-*O*-gallate	18.37	$C_{28}H_{24}O_{16}$	615.1002	151.0061(100),137.0234(47.52)	223.17±8.57	2.42
8	Quercetin-3-O-rhamnoside	19.20	$C_{21}H_{20}O_{11}$	447.0937	300.0274(100),301.0339(56.12)	1380.79±64.72	14.97
9	Kaempferol-3-*O*-hexoside	20.60	$C_{21}H_{20}O_{10}$	431.0987	61.9870(100),130.9827(38.09)	92.52±6.34	1.01

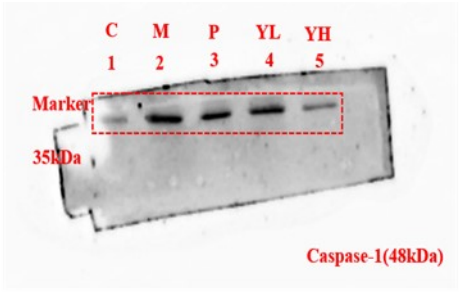
RT: retention time; Values are expressed as the mean ± S.D. (n = 3, μg/g of dry extract); Gallic acid standard was used for quantifying the compounds 3,4; myricetin-3-*O*-rhamnoside standard was used for quantifying the compounds 5 and 7; luteolin-7-*O*-glucoside standard was used for quantifying the compound 6; quercetin-3-*O*-rhamnoside standard was used for quantifying the compounds 8; kaempferol standard was used for quantifying the compounds 9.

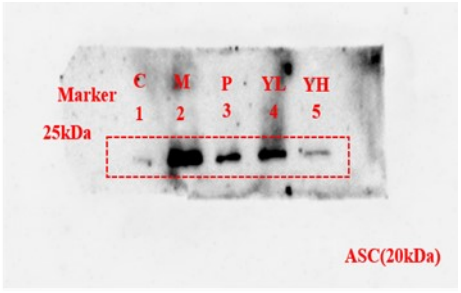
Fig. S2 Effects of the extract from Chinese sumac fruits on wight body (A) and food intake (B) of gout rats.

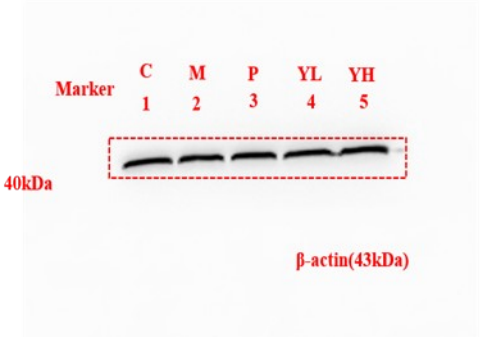


Raw images of western blot in Figure 5

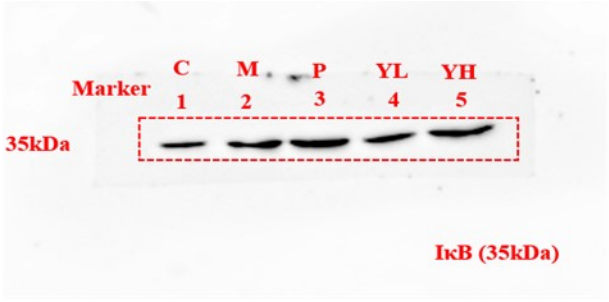


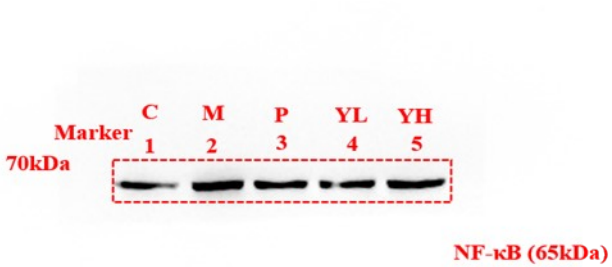


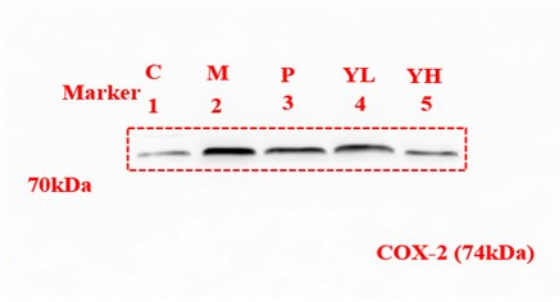


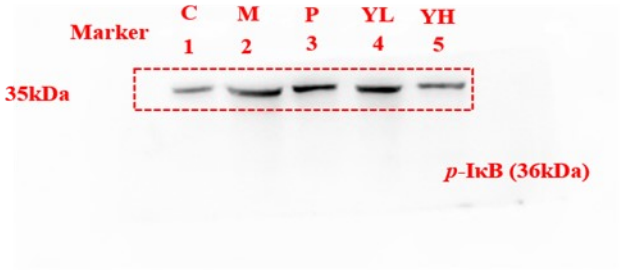


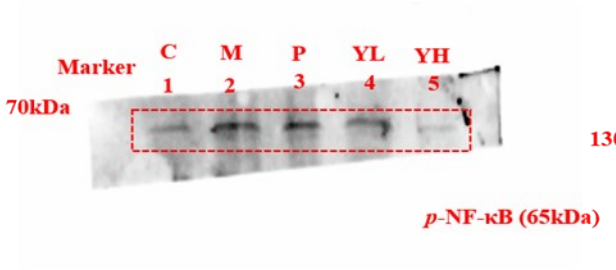
Raw images of western blot in Figure 6

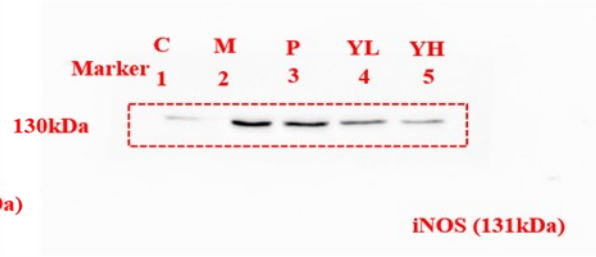


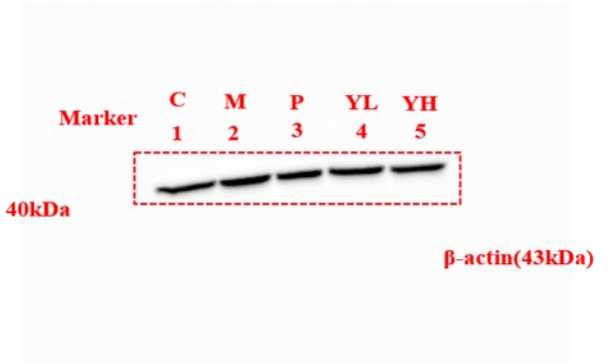












Raw images of western blot in Figure 8