

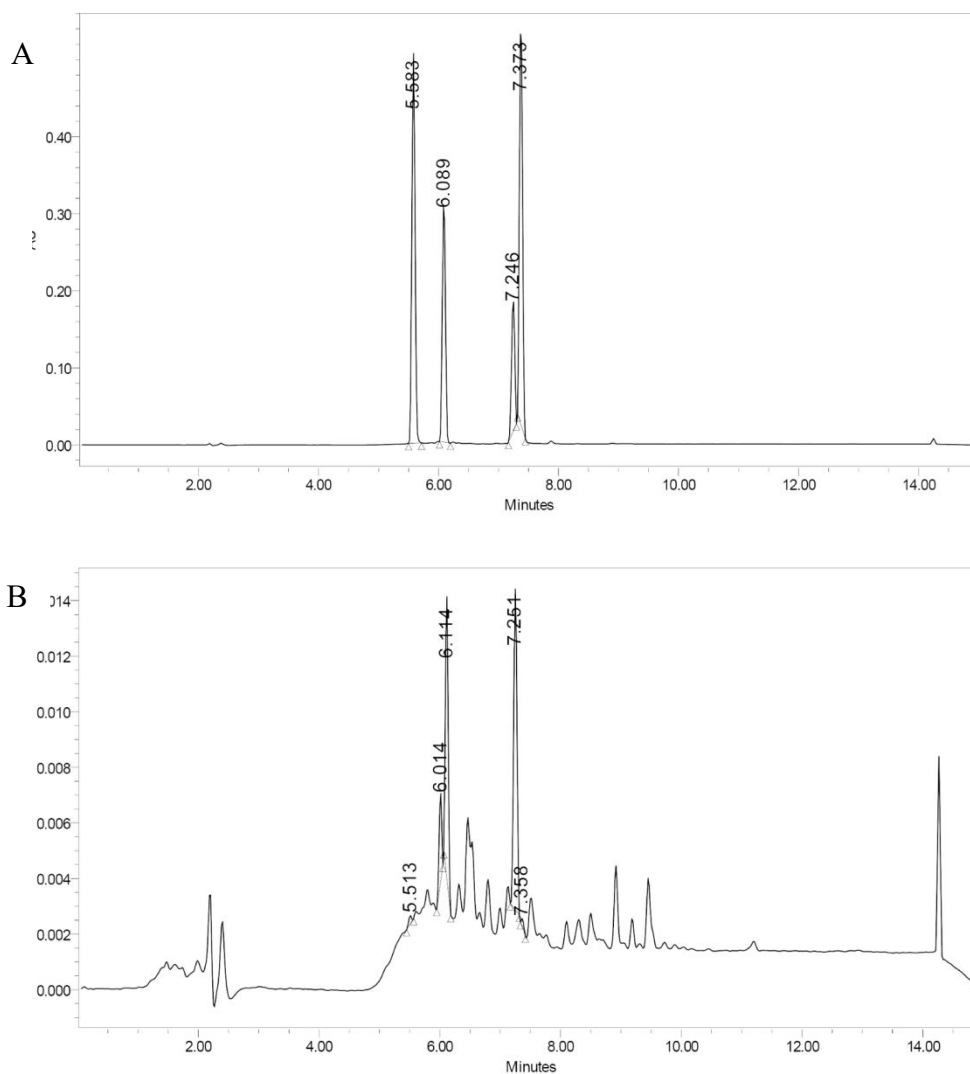
Supplementary Materials

Preparation of the LGZG decoction

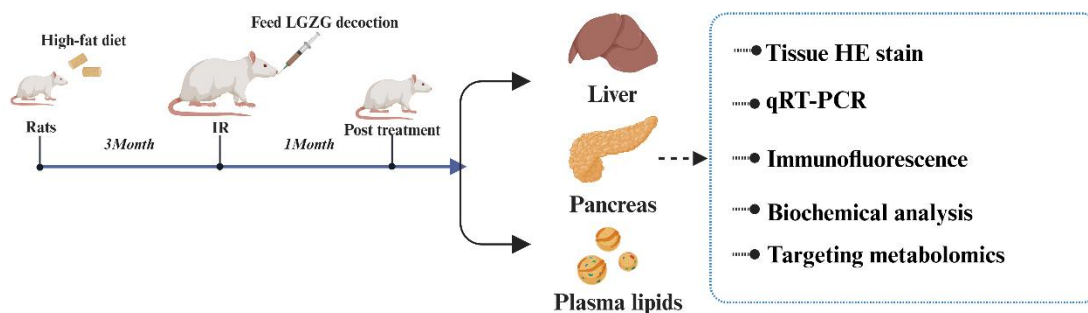
Supplementary Table 1 provides details about *Atractylodes macrocephala*, *Glycyrrhiza Radix*, *Cinnamomum cassia* Presl, and *Poria cocos* (Schw.) Wolf. The Chinese Pharmacopoeia (RC, 2015) was followed for preparation and quality control of the formula particles.

High-performance liquid chromatography (HPLC)

HPLC was performed using a Waters C18 column (250*4.6 mm, 3 μ m) and a Waters 2695 chromatograph. The sample input was 10 μ l, and the flow and column temperature were adjusted to 1 ml/min at 25 °C. With acetonitrile as the organic phase and 0.1% phosphate as the aqueous phase, the flow phase ratio A/B was 95/5. The detection wavelength was 240 nm.



Supplementary Figure 1 HPLC characterization of the LGZG decoction. A and B: Mixed standards (A) and LGZG decoction sample determined by HPLC (B) ^[10]. The four critical components of one LGZG decoction are glycyrrhizate, glycyrrhizin, cinnamon, and chlorogenic acid. These substances are broadly consistent with those recommended by the Chinese Pharmacopoeia.



Supplementary Figure 2 Animal model preparation and experimental protocols (Created with BioRender.com).

Supplementary Table 1 The components of the LGZG decoction

Herbal name	Botanical Latin name	Place of origin	Part used	Amount (g)	Lot number
Fu-Ling	<i>Poria cocos</i> (Schw.) Wolf	Anhui	Dried sclerotia	12	20043524
Gui-Zhi	<i>Cinnamomum cassia</i> Presl	Guangxi	Dried Tender branches	9	20018273
Bai-Zhu	<i>Atractylodes macrocephala</i>	Anhui	Dried rhizome	9	20020171
Gan-Cao	<i>Glycyrrhiza Radix</i>	Gansu	Dried root and rhizome	6	20023191

Supplementary Table 2 Primers used in the study (rat)

S6K1-F	GCTGCTTCTCGTCTTGGA
S6K1-R	GAGTCATCGGGGCTGTC
GLP1R-F	ACAGGTCTCTTCTGCAACCG
GLP1R-R	ATGCCCTTGGAGCACACTAC
GAPDH-F	GAAGGTCGGTGTGAACGGAT
GAPDH-R	CCCATTGATGTTAGCGGGAT

S6K1, ribosomal protein S6 kinase beta 1; GLP-1R, glucagon-like peptide-1 receptor; GAPDH, glyceraldehyde 3-phosphate dehydrogenase;