Supplementary material

Fig. S1

The extracted ion chromatograms of GL95 by UPLC-QTOF MS in negative mode.

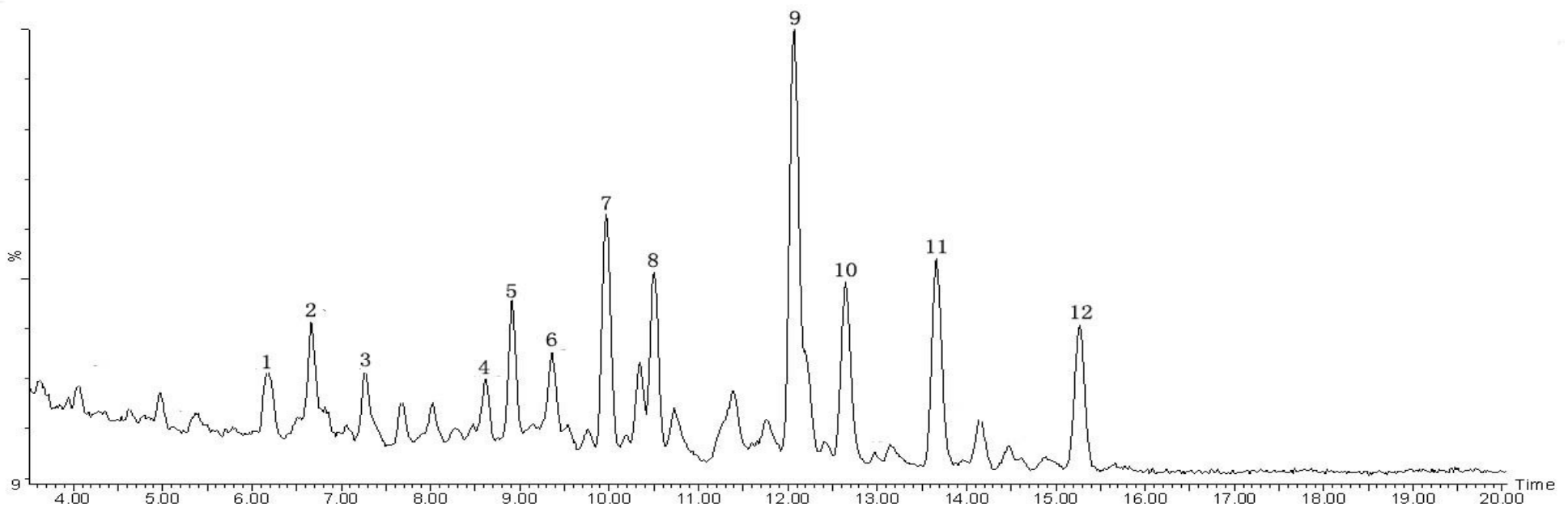

Fig. S2

Inhibition of pancreatic lipase activity of the 12 major components obtained from GL95 through preparative high performance liquid chromatography (PHPLC). The different superscripts within the same dose indicate significant differences ($P < 0.05$) as determined by Tukey post hoc test.

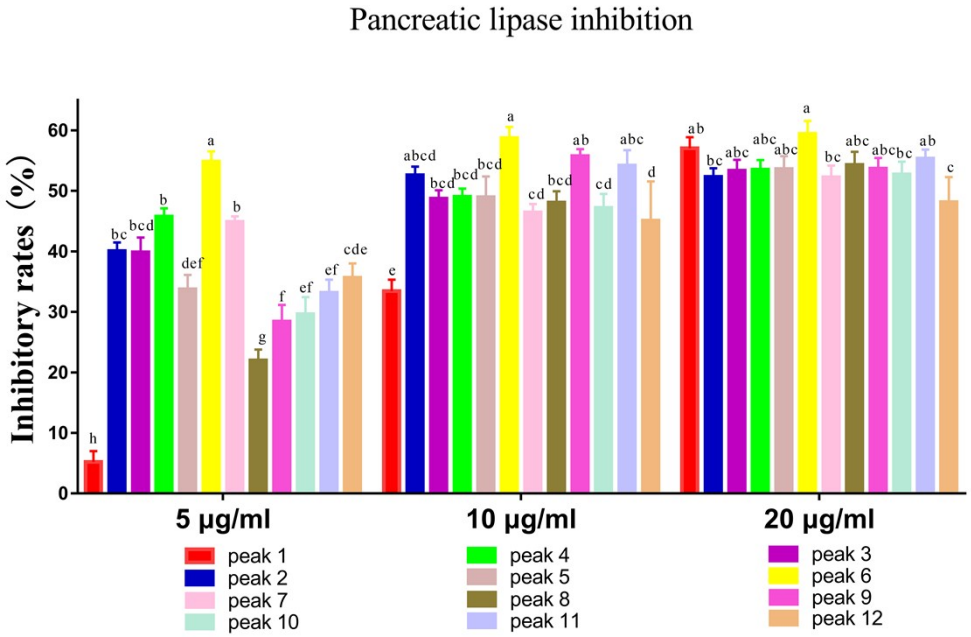

Fig. S3

Effects of GL95 and Sym administrations on the body weight gains of Wistar rats fed with a high-fat diet. The differences were assessed by ANOVA and denoted as follows: $^{\#}P < 0.05$ versus the NFD group, $^{*}P < 0.05$ versus the HFD group; $^{\#\#}P < 0.01$ versus the NFD group; $^{**}P < 0.01$ versus the HFD group.

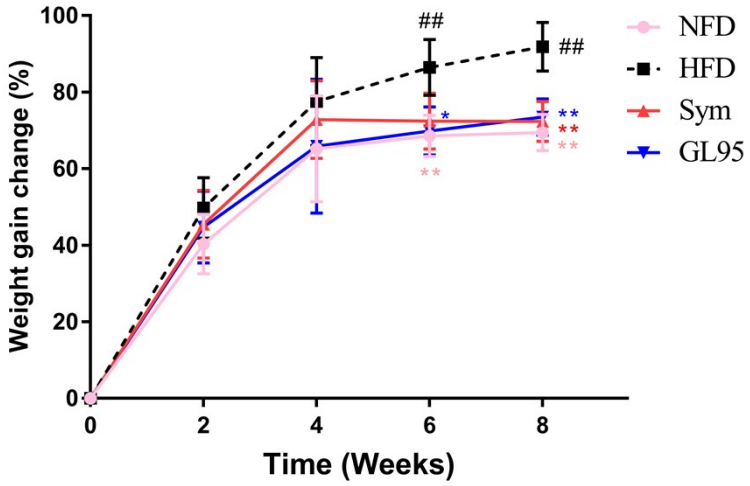

Fig. S4

Effects of GL95 and Sym administrations on glucose tolerance in high-fat diet fed Wistar rats treated for 8 weeks. The differences were assessed by ANOVA and denoted as follows: $^{\#}P <$ 0.05 versus the NFD group, $^{*}P < 0.05$ versus the HFD group; $^{\#\#}P < 0.01$ versus the NFD group; $^{**}P < 0.01$ versus the HFD group.

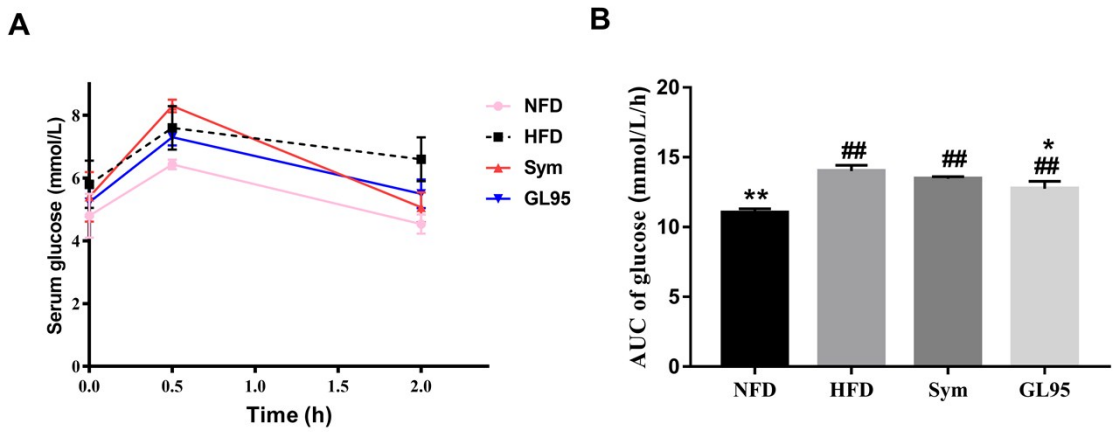

Fig. S5

Effects of GL95 and Sym administrations on the relative abundance of faecal microflora in high-fat diet fed Wistar rats at the phyla (A: 4 weeks and B: 8 weeks) and family (C: 4 weeks and D: 8 weeks) level.

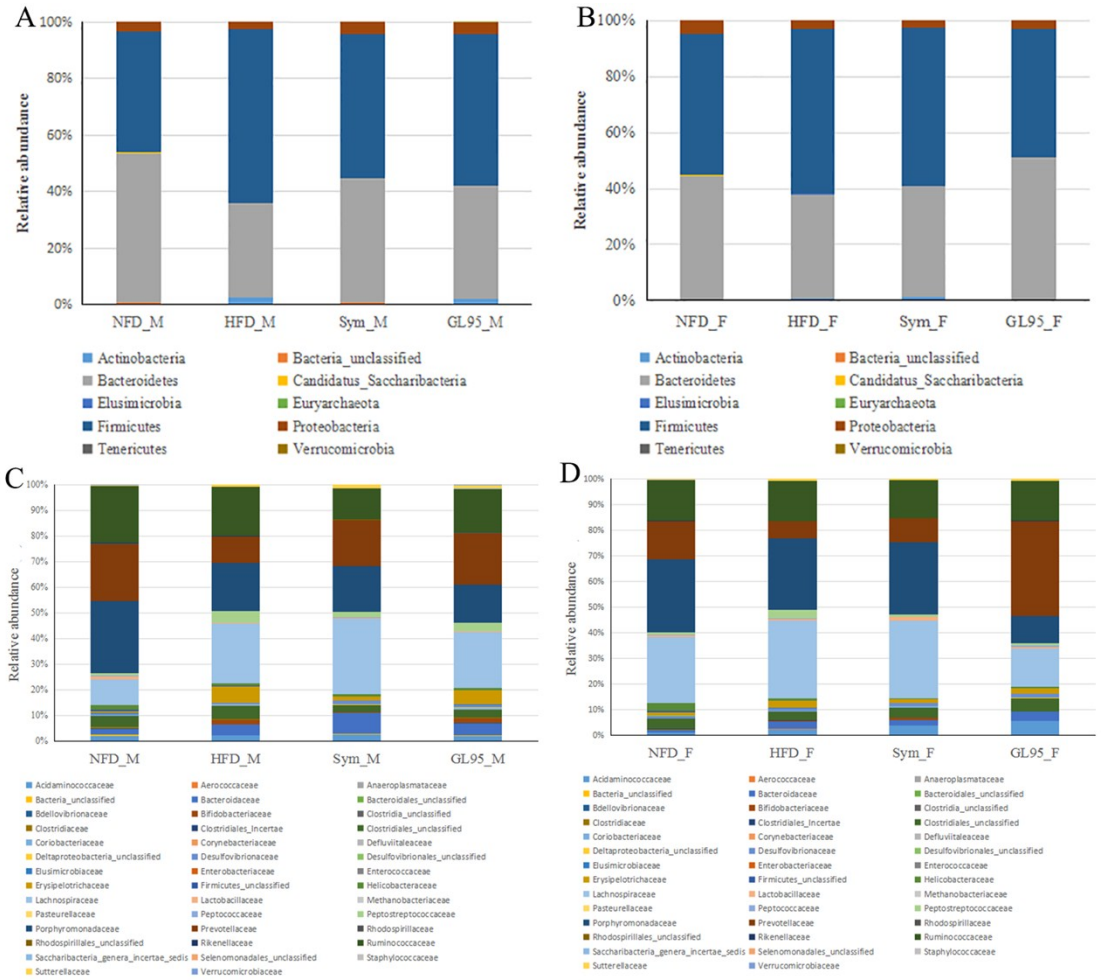

Fig. S6

The spearman's correlation between faecal bacterial genera and lipid metabolic parameters in GLWE, HFD and NFD groups. Red and blue squares indicate significant positive ($r > 0.7$) and negative ($r < -0.7$) associations, respectively. Yellow squares indicate non-significant correlations ($|r| < 0.7$). The intensity of the colors represents the degree of association between faecal bacterial genera and host lipid metabolism disorder associated parameters.

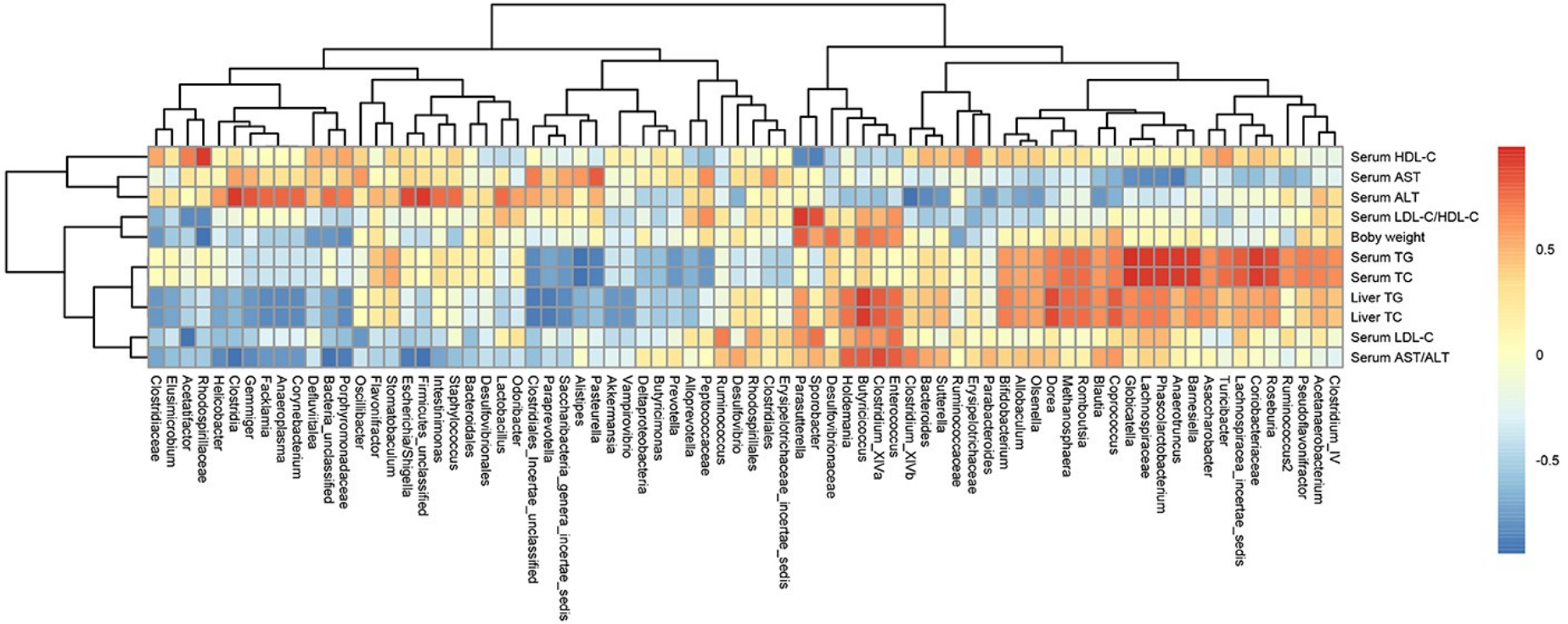

Fig. S7

Principal component analysis plots of caecal microbiota of different groups.

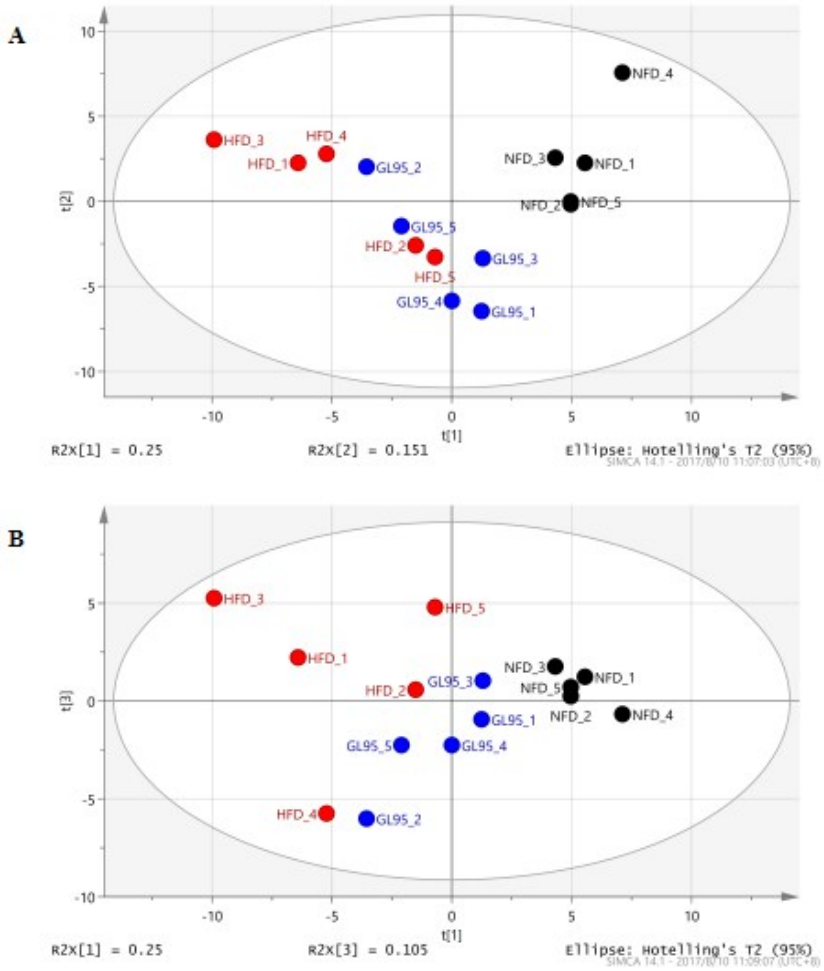

Table S1

Sequences of primers used for RT-PCR.

Primers	Forward primer (5′−3′)	Reverse primer (5′−3′)	Reference
β-ACTIN	ACGTCGACATCCGCAAAGACCTC	TGATCTCCTTCTGCATCCGGTCA	[1]
PPARα	CACGAAGCCTACCTGAAGAACT	CTTTAGGAACTCTCGGGTGATG	[2]
SREBP-1C	GCTGTTGGCATCCTGCTATC	TAGCTGGAAGTGACGGTGGT	[3]
CYP7A1	GAGGGATTGAAGCACAAGAACC	ATGCCCAGAGAATAGCGAGGT	[4]
FAS	AGCCCCTCAAGTGCACAGTG	TGCCAATGTGTTTTCCCTGA	[4]
HMGCR	AGTGGTGCGTCTTCCTCG	CGAATCTGCTGGTGCTAT	[4]
Acox1	TTACATGCCTTTGTTGTCCCTATC	CGGTAATTGTCCATCTTCAGGTA	[3]
ACAT2	GAACGTGGTGGTCCATGACT	TTCAGCAGACCTCCAACCAC	[4]
ApoB	AGCTGATCGAAGTGTCCAGC	TGTTAACCGCATGGCTCAGT	[4]
FXR	CCGCAGTCGAGGCCATGTTCC	TCATCGGAGATGCCGCTCTTTCG	[5]

References:

[1] M. Zhang, Z. Xie, W. Gao, L. Pu,; J. Wei and C. Guo, *Nutr. Res.*, 2016**, 36**, 271-279.

[2] R. Zhang,Y. Yu, S. Hu, J. Zhang, H. Yang, B. Han, Y. Cheng and X. Luo, *Nutr. Res.*, 2016**, 36**, 1022-1030.

[3] Z. Zhou, F. Wang, X. Ren, Y. Wang and C. Blanchard, *Int. J. Biol. Macromol.*, 2015**, 75**, 316-21.

[4] Y. Ding, C. Xiao, Q. Wu, Y. Xie, X. Li, H. Hu and L. Li, *Front. Microbiol.*, 2016, **7**, 1186.

[5] L. Sheng, P. K. Jena, H. X. Liu, K. M. Kalanetra, F. J. Gonzalez, S. W. French, V. V. Krishnan, D. A. Mills and Y. Y. Wan, *Sci. Rep*., 2017**, 7**, 1748.