Supporting Information

Cross talk between gut microbiota and host lipid metabolism in a mouse model of alcoholic liver injury by chronic baijiu or ethanol feeding

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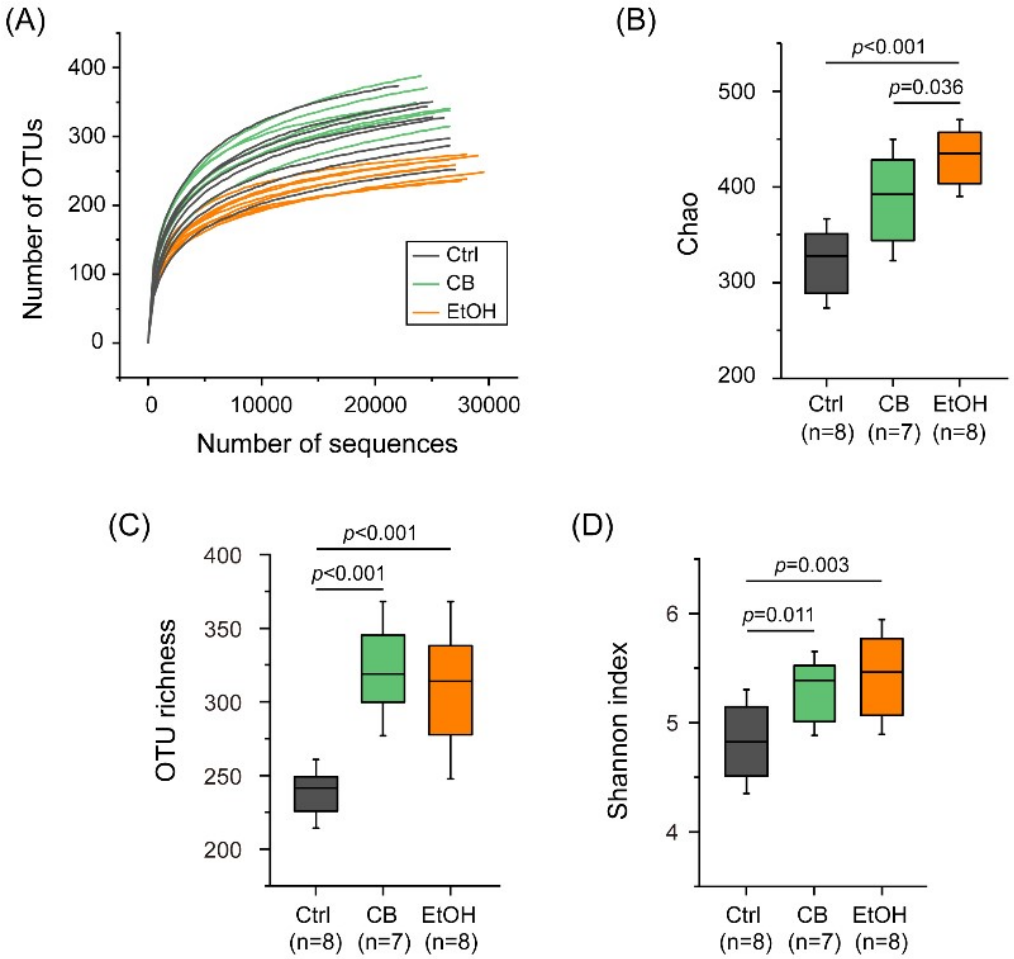
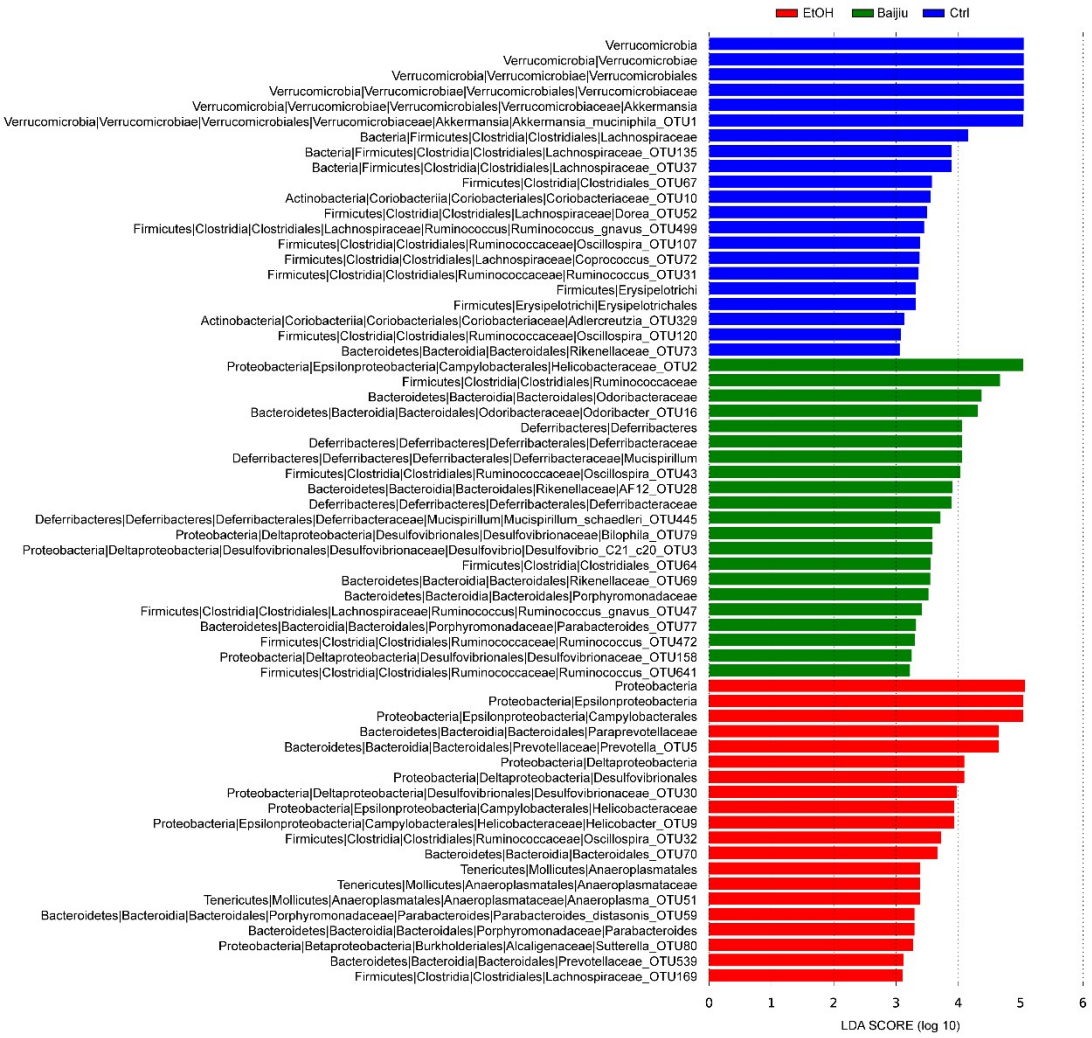


18

19 Figure S1 α diversity analysis of caecal microbiota.

20 (A) Rarefaction curves showed sequencing depth. (B) Chao1 index. (C) OTU richness. (D)

21 Shannon index. Significance was evaluated using the Mann-Whitney U test.



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23 Figure S2 Histogram of the LDA scores (log10) computed for features differentially abundant

24 in Ctrl, CB and EtOH subjects.

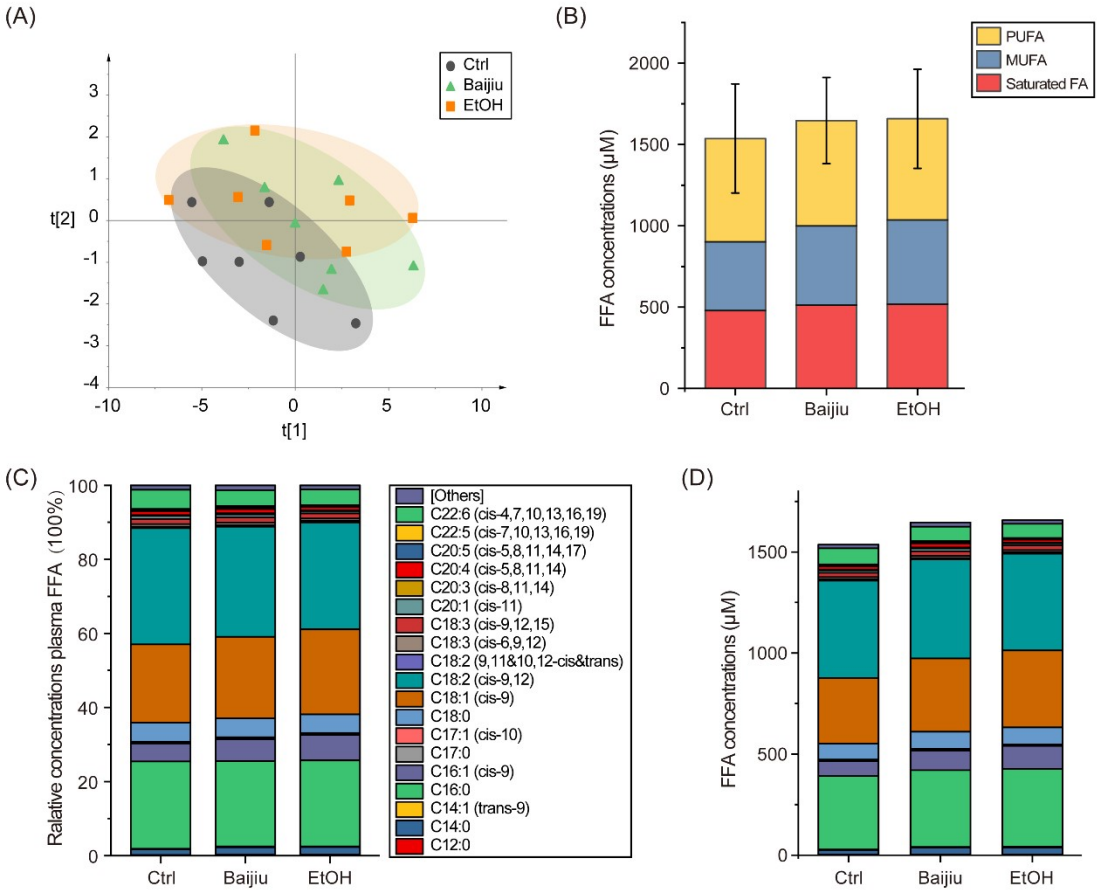

Figure S3 Plasma FFA analysis.

(A) Plasma FFA profile depicted by PLS scores plots (n=7 mice/group). (B) Concentrations of total plasma PUFA, MUFA and saturated FA. (C) Relative concentrations of top 19 FFAs. (D) Absolute concentrations of top 19 FFAs.

Figure S4 Correlations between hepatic FFA and severity of liver injury.

33 Table S1. Differential hepatic FFAs.

	Baijiu vs Ctrl		EtOH vs Ctrl		FC[c]	
FFA	*p*[a]	VIP[b]	*p*	VIP	Baijiu/Ctrl	EtOH/Ctrl
C7:0	**0.024**	**1.258**	**<0.001**	**1.643**	2.537	2.594
C16:1 (cis-9)	0.094	0.910	**0.009**	**1.391**	1.792	2.237
C17.0	**0.013**	**1.316**	**0.036**	**1.132**	1.258	1.317
C18:0	**0.001**	**1.413**	**0.002**	**1.513**	1.486	1.558
C18:1 (cis-9)	**0.020**	**1.132**	**0.006**	**1.413**	1.274	1.432
C18:2 (cis-9,12)	0.350	0.678	**0.036**	**1.168**	1.074	1.247
C19:1 (cis-10)	**0.007**	**1.383**	**0.015**	**1.283**	1.310	1.478
C19:2 (cis-10,13)	**0.046**	**1.075**	**0.045**	**1.075**	1.775	1.495
C20:0	**0.010**	**1.242**	**0.013**	**1.324**	1.512	1.215
C20:1 (cis-11)	**<0.001**	**1.542**	**0.004**	**1.492**	1.538	1.482
C20:2 (cis-11,14)	**<0.001**	**1.735**	**0.001**	**1.694**	1.737	1.714
C20:3 (cis-8,11,14)	**<0.001**	**1.835**	**<0.001**	**1.735**	1.852	1.999
C20:4 (cis-5,8,11,14)	**0.001**	**1.499**	**0.032**	**1.150**	1.475	1.715
C20:5 (cis-5,8,11,14,17)	**0.039**	**1.205**	**0.018**	**1.205**	1.295	1.274
C22:1 (cis&trans-13)	**0.001**	**1.642**	**0.002**	**1.477**	1.829	1.453
C22:2 (cis-13,16)	**0.002**	**1.521**	**0.001**	**1.716**	2.068	1.707
C22:3 (cis-13,16,19)	**<0.001**	**1.694**	**<0.001**	**1.859**	2.656	2.316
C22:4 (cis-7,10,13,16)	**<0.001**	**1.872**	**<0.001**	**1.872**	2.199	1.867
C22:5 (cis-4,7,10,13,16)	**<0.001**	**1.646**	**<0.001**	**1.710**	1.965	1.896

C22:5 (cis-7,10,13,16,19)	**<0.001**	**1.735**	**<0.001**	**1.874**	1.709	1.694
C22:6 (cis-4,7,10,13,16,19)	**0.001**	**1.496**	**0.002**	**1.644**	1.567	1.693
C24:1 (cis-15)	**<0.001**	**1.644**	**0.011**	**1.296**	1.625	1.659

[a] *p* values were calculated from 2-tailed, unpaired Student's *t*-test. [b] Variable importance in the projection (VIP) was obtained from OPLS-DA with a threshold of 1.0; [c] Fold change (FC) was obtained by comparing mean concentration of FFAs in the baijiu or EtOH group to the Ctrl group.

Table S2. Differential plasma FFAs.

	Baijiu vs Ctrl		EtOH vs Ctrl		FC[c]	
FFA	*p*[a]	VIP[b]	*p*	VIP	Baijiu/Ctrl	EtOH/Ctrl
C14:0	0.096	0.917	**0.036**	**1.125**	1.435	1.484
C14:1 (cis-9)	0.116	0.756	**0.028**	**1.274**	1.421	1.571
C16:1 (cis-9)	0.230	0.634	**0.046**	**1.096**	1.298	1.528
C17:1 (cis-10)	**0.038**	**1.132**	0.223	0.613	1.447	1.245
C19:0	0.938	0.841	**0.007**	**1.413**	0.989	0.649
C20:3 (cis-8,11,14)	**0.013**	**1.308**	0.597	0.568	1.417	1.100
C21:1 (cis&trans-13)	**0.020**	**1.272**	0.898	0.272	2.229	0.965
C22:4 (cis-7,10,13,16)	**0.042**	**1.118**	0.994	0.174	1.370	1.001
C22:5 (cis-4,7,10,13,16)	**0.017**	**1.314**	0.689	0.496	1.331	0.939
C22:5 (cis-7,10,13,16,19)	**0.026**	**1.256**	0.638	0.544	1.392	0.922

[a] *p* values were calculated from 2-tailed, unpaired Student's *t*-test. [b] Variable importance in the projection (VIP) was obtained from OPLS-DA with a threshold of 1.0; [c] Fold change (FC) was obtained by comparing mean concentration of FFAs in the baijiu or EtOH group to the Ctrl group.

45 Table S3. Key hepatic FFAs and their concentrations (ng/g of liver tissue).

	Concentrations (ng/g liver tissue)					
FFAs	Ctrl	SD	Baijiu	SD	EtOH	SD
C7:0	16199	9514	41099	22332	42017	7442
C17.0	50602	8606	63664	7663	66630	14194
C18:0	802863	94149	1193279	197510	1251187	271389
C18:1 (cis-9)	6263817	1243956	7980870	1097487	8969211	1564497
C19:1 (cis-10)	15832	3616	20739	1605	23407	5499
C20:1 (cis-11)	107790	20049	165794	20298	159768	29348
C20:2 (cis-11,14)	68073	9486	118215	16233	116682	24820
C20:3 (cis-8,11,14)	115964	9213	214811	32941	231756	52229
C20:4 (cis-5,8,11,14)	550983	58715	812760	135078	945023	394091
C22:1 (cis&trans-13)	3421	326	6258	1616	4971	900
C22:2 (cis-13,16)	1803	332	3729	1196	3078	588
C22:3 (cis-13,16,19)	1479	242	3928	1077	3425	789
C22:4 (cis-7,10,13,16)	51127	3792	112449	17602	95444	17517
C22:5 (cis-4,7,10,13,16)	26898	3214	52840	12203	51009	10924
C22:5 (cis-7,10,13,16,19)	222595	16183	380525	64658	376967	53360
C22:6 (cis-4,7,10,13,16,19)	2072410	410400	3246443	610122	3508820	766631
C24:1 (cis-15)	3752	372	6097	870	6225	1982
Unsaturated FFA	24589169	3245203	29661149	3884477	33638003	6378210
MUFA	8292267	1107807	10685111	1908256	11983419	2533043

PUFA	16296902	2231571	18976038	2301422	21654583	3911863
Total FFA	32582998	4312396	39005281	5485400	43420509	7966617