Electronic Supplementary Material (ESI) for Food & Function.

Table S1. The biomarkers identified *via* MetaboAnalyst software between the SHR-Untreated and SHR-RVPSL groups in both positive and negative ion modes. SHR-RVPSL group vs SHR-Untreated group: $p < 0.05$, VIP>1, Fold change≥2 or ≤0.5.

NO.	Metabolite	Formula	Trend	KEGG map
1	GANT 61	$C_{27}H_{35}N_5$	up	--
2	LY255283	$C_{19}H_{28}N_4O_3$	up	--
3	Pro Ala Asp Lys Thr	$C_{22}H_{38}N_6O_9$	up	--
4	Acetyl-L-carnitine	$C_9H_{17}NO_4$	up	ko04931
5	Choline	$C_5H_{13}NO$	up	ko00260, ko00564, ko01100, ko02010, ko04725, ko04976, ko05231
6	Phe Ala Glu Lys Ile	$C_{29}H_{46}N_6O_8$	up	--
7	Adenosine	$C_{10}H_{13}N_5O_4$	up	ko00230, ko01100, ko02010, ko04022, ko04024, ko04071, ko04080, ko04270, ko04923, ko04924, ko05012, ko05032, ko05034
8	CL(i-14:0/i-17:0/i-16:0/a-21:0) [rac]	$C_{77}H_{150}O_{17}P_2$	up	--
9	Monoethylhexyl phthalic acid	$C_{16}H_{22}O_4$	up	--
10	Anhydrotetracycline	$C_{22}H_{22}N_2O_7$	up	ko00253, ko01057, ko01100, ko01110
11	Leu Thr Gln Gln Leu	$C_{26}H_{47}N_7O_9$	up	--
12	N-Nervonoyl-D-erythro-sphingosylphosphorylcholine	$C_{47}H_{93}N_2O_6P$	up	--
13	13Z-Docosenamide	$C_{22}H_{43}NO$	up	--
14	PC (20:4(5Z,8Z,11Z,14Z)/20:4(5Z,8Z,11Z,14Z))	$C_{48}H_{80}NO_8P$	up	--
15	Linoleoyl Ethanolamide	$C_{20}H_{37}NO_2$	up	--
16	His Ile Asn	$C_{16}H_{26}N_6O_5$	up	--
17	Kalkitoxin thioamide alcohol	$C_{21}H_{40}N_2O_2S$	up	--

Table S1 *(contd.)*

NO.	Metabolite	Formula	Trend	KEGG map
18	1,2-dioleoyl-sn-glycero-3-phosphatidylcholine	$C_{44}H_{84}NO_8P$	up	--
19	1-O-Hexadecyl-2-O-acetyl-sn-glyceryl-3-phosphorylcholine	$C_{26}H_{54}NO_7P$	up	--
20	2,5-Dimethylbenzaldehyde	$C_9H_{10}O$	up	--
21	(-)-11-nor-9-carboxy- 9-THC	$C_{21}H_{28}O_4$	up	--
22	Leu Val Phe Ala Ile	$C_{29}H_{47}N_5O_6$	up	--
23	Metenamine	$C_6H_{12}N_4$	up	--
24	PA (22:1(13Z)/22:6(4Z,7Z,10Z,13Z,16Z,19Z))	$C_{47}H_{79}O_8P$	up	--
25	4-Hydroxyacid;4-Hydroxyalkanoic acid; 4-Hydroxycarboxylic acid	$C_4H_8O_3$	up	--
26	1-heptadecanoyl-sn-glycero-3-phosphocholine	$C_{25}H_{52}NO_7P$	up	--
27	Adrenic Acid	$C_{22}H_{36}O_2$	up	ko01040, ko04216
28	Oleyl alcohol	$C_{18}H_{36}O$	up	--
29	Eicosa-5Z,8Z-dienoic acid (20:2, n-12)	$C_{20}H_{36}O_2$	up	--
30	Drospirenone	$C_{24}H_{30}O_3$	up	--
31	Triazamate	$C_{13}H_{22}N_4O_3S$	up	--
32	(+)-trans-C75	$C_{14}H_{22}O_4$	up	--
33	Geldanamycin Analog	$C_{28}H_{39}N_3O_8$	up	--
34	Niacinamide	$C_6H_6N_2O$	up	ko00760, ko01100, ko04212, ko04977
35	Tetradecanedioic acid	$C_{14}H_{26}O_4$	up	--
36	(+)-Tocopherol	$C_{29}H_{50}O_2$	up	--
37	4-Propylphenol	$C_9H_{12}O$	up	--
38	Loxtidine; Lavoltidine	$C_{19}H_{29}N_5O_2$	up	--
39	13(R)-HODE	$C_{18}H_{32}O_3$	up	--

Table S1 *(contd.)*

NO.	Metabolite	Formula	Trend	KEGG map
40	Lys Glu Thr Glu	$C_{20}H_{35}N_5O_{10}$	up	--
41	2-N-Dodecyltetrahydrothiophene; DTHT	$C_{16}H_{32}S$	up	--
42	Glycocholic Acid	$C_{26}H_{43}NO_6$	up	ko00120, ko00121, ko01100, ko04976, ko04979
43	1-Stearoyl-2-hydroxy-sn-glycero-3-phosphocholine	$C_{26}H_{54}NO_7P$	up	--
44	Gln Phe His	$C_{20}H_{26}N_6O_5$	up	--
45	Asp Asp Arg	$C_{14}H_{24}N_6O_8$	up	--
46	Isodesmosine	$C_{24}H_{40}N_5O_8$	up	--
47	Thr Val Thr Phe Tyr	$C_{31}H_{43}N_5O_9$	up	--
48	Minosaminomycin	$C_{25}H_{46}N_8O_{10}$	up	--
49	Oxyphencyclimine	$C_{20}H_{28}N_2O_3$	up	--
50	Tyr Arg Phe	$C_{24}H_{32}N_6O_5$	up	--
51	3alpha,7alpha,12alpha-Trihydroxy-5alpha-cholan-24-oic acid	$C_{24}H_{40}O_5$	up	ko00121
52	Propiolic acid	$C_3H_2O_2$	up	ko00410, ko00640, ko01100
53	Gamma-Glu-Leu	$C_{11}H_{20}N_2O_5$	up	--
54	1-Oleoyl Lysophosphatidic Acid (sodium salt)	$C_{21}H_{41}O_7P$	up	--
55	Magnoshinin	$C_{24}H_{30}O_6$	up	--
56	Glycoursodeoxycholic acid	$C_{26}H_{43}NO_5$	up	--
57	Avermectin B1b aglycone	$C_{33}H_{46}O_8$	up	ko00522, ko01100, ko01110
58	PE-NMe(11D3/11M5)	$C_{47}H_{82}NO_{10}P$	up	--
59	Arg Leu Lys Trp	$C_{29}H_{47}N_9O_5$	up	--
60	alpha, beta-Dihydroxyethyl-TPP;alpha,beta-Dihydroxyethyl-ThDP;2-(1,2-Dihydroxyethyl)-TPP	$C_{14}H_{23}N_4O_9P_2S$	up	--

Table S1 *(contd.)*

NO.	Metabolite	Formula	Trend	KEGG map
61	PE-NMe (18:0/22:5(4Z,7Z,10Z,13Z,16Z))	$C_{46}H_{82}NO_8P$	up	--
62	D-Glyceraldehyde 3-phosphate	$C_3H_7O_6P$	up	ko00010, ko00030, ko00051, ko00052, ko00331, ko00562, ko00680, ko00710, ko00730, ko00750, ko00900, ko01060, ko01061, ko01062, ko01063, ko01064, ko01065, ko01066, ko01070, ko01100, ko01110, ko01120, ko01200, ko01230
63	Asp Asn Tyr Lys	$C_{23}H_{34}N_6O_9$	up	--
64	2-hydroxyhexadecanoic acid	$C_{16}H_{32}O_3$	up	--
65	Ergosta-5,7,22,24(28)-tetraen-3beta-ol; Ergosta-5,7,22,24(24(1))-tetraen-3beta-ol;5,7,22,24(28)-Ergostatetraenol	$C_{28}H_{42}O$	up	ko00100, ko01100, ko01110
66	Jervine	$C_{27}H_{39}NO_3$	up	ko01066
67	Phosphoglycolic acid	$C_2H_5O_6P$	up	ko00630, ko01100, ko01110, ko01200
68	PE-NMe (14:0/14:1(9Z))	$C_{34}H_{66}NO_8P$	up	--
69	Ursodeoxycholic acid	$C_{24}H_{40}O_4$	up	ko00121
70	20-O-Methyl-19-chloroproansamitocin	$C_{26}H_{34}ClNO_6$	up	ko01051, ko01110
71	3-Oxocholic acid	$C_{24}H_{38}O_5$	up	--
72	Glycodeoxycholic acid	$C_{26}H_{43}NO_5$	up	--
73	Dimethylarsinate	$C_2H_7AsO_2$	up	--
74	Pyrazole	$C_3H_4N_2$	up	--
75	Osthenol-7-O-beta-D-gentiobioside	$C_{26}H_{34}O_{13}$	up	--
76	Acetyl-maltose;6-O-Acetyl-alpha-D-glucopyranosyl-(1->4)-D-glucose	$C_{14}H_{24}O_{12}$	up	--

Table S1 *(contd.)*

NO.	Metabolite	Formula	Trend	KEGG map
77	Ala Pro Arg	$C_{14}H_{26}N_6O_4$	up	--
78	Ala Gln Asp Thr Gln	$C_{21}H_{35}N_7O_{11}$	up	--
79	1,1,1-Trichloroethane	$C_2H_3Cl_3$	up	ko00625, ko01120
80	Naringenin-7-O- -D-Glucuronide	$C_{21}H_{20}O_{11}$	up	--
81	CL(i-14:0/i-17:0/i-14:0/a-13:0) [rac]	$C_{67}H_{130}O_{17}P_2$	up	--
82	Phe Cys Leu Phe Arg	$C_{33}H_{48}N_8O_6S$	up	--
83	(+)-Neomenthyl O-beta-D-glucoside	$C_{16}H_{30}O_6$	up	--
84	Methyl diacetoxy-10-gingerdiol	$C_{26}H_{42}O_6$	up	--
85	ponasterone A	$C_{27}H_{44}O_6$	up	--
86	Manidipine (Manyper)	$C_{35}H_{38}N_4O_6$	up	--
87	Pro Pro Asp Gln Gln	$C_{24}H_{37}N_7O_{10}$	down	--
88	PC (18:0/22:6(4Z,7Z,10Z,13Z,16Z,19Z))	$C_{48}H_{84}NO_8P$	down	--
89	1-Stearoyl-2-Arachidonoyl PC	$C_{46}H_{84}NO_8P$	down	--
90	1-(1Z-Octadecenyl)-2-(5Z,8Z,11Z,14Z-eicosatetraenoyl)-sn-glycero-3-phosphocholine	$C_{46}H_{84}NO_7P$	down	--
91	Strictosamide	$C_{26}H_{30}N_2O_8$	down	ko01060, ko01063
92	1-Palmitoyl-2-docosahexaenoyl-sn-glycero-3-phosphocholine	$C_{46}H_{80}NO_8P$	down	--
93	Cidofovir	$C_8H_{14}N_3O_6P$	down	--
94	2-Oleoyl-1-palmitoyl-sn-glycero-3-phosphocholine	$C_{42}H_{82}NO_8P$	down	--
95	His Ser Asn	$C_{13}H_{20}N_6O_6$	down	--
96	1-Palmitoyl-2-linoleoyl-sn-glycero-3-phosphocholine	$C_{42}H_{80}NO_8P$	down	--
97	1-Oleoyl-2-palmitoyl-sn-glycero-3-phosphocholine	$C_{42}H_{82}NO_8P$	down	--

Table S1 *(contd.)*

NO.	Metabolite	Formula	Trend	KEGG map
98	L-Tryptophan	$C_{11}H_{12}N_2O_2$	down	ko00260, ko00380, ko00400, ko00404, ko00901, ko00966, ko00970, ko00998, ko01060, ko01061, ko01063, ko01070, ko01100, ko01110, ko01210, ko01230, ko04361, ko04726, ko04974, ko04978, ko05143, ko05230
99	1,2-Dilinoleoyl-sn-glycero-3-phosphocholine	$C_{44}H_{80}NO_8P$	down	--
100	Ile Leu Asn Asp	$C_{20}H_{35}N_5O_8$	down	--
101	N-Acetyl-L-methionine	$C_7H_{13}NO_3S$	down	--
102	LH 21	$C_{20}H_{20}C_{l3}N_3$	down	--

Note：-- : the metabolite was not mapped to the corresponding pathway map in KEGG.