

Table SI. Primer sequences.

Gene name	Accession	Product length	Primer sequence (5'-3')
<i>Trp63</i>	NM_001427037	117	F: TACTGCCCCGACCCTTACAT R: GCTGAGGAACTCGCTTGTCTG
<i>Trp73</i>	NM_001126330	75	F: TCTTTCGAGGGTCGCATCTG R: CTGTTGCTCCCGGTAATGGT
<i>Dapk1</i>	NM_029653	107	F: ATGACTGTGTTTCAGGCAGGAA R: CCGGTACTTTTCTCACGACATTT
<i>Casp14</i>	NM_009809	152	F: ACGCATGTTCCGTTACCTGAA R: CACCATGTGCCATGAGTACCA
<i>Cd70</i>	NM_011617	89	F: GCTGAATCTCACAGTTCCTCGG R: GCTCTGGTCCGTGTGTGAA
<i>β-actin</i>	NM_007393	245	F:GTGACGTTGACATCCGTAAAGA R:GCCGGACTCATCGTACTCC

F, forward; R, reverse.

Table SII. Screening results for differential metabolites in the model and treatment groups.

No.	name	mz	RT	FC	P-value	VIP	Type
1	Geranyl diphosphate	314.091	314.800	0.590	2.162x10 ⁻⁷	2.812	down
2	3-Indoleacetonitrile	156.121	708.000	1.600	3.998x10 ⁻⁷	2.802	up
3	D-Arabitol	152.995	961.200	0.390	1.179x10 ⁻⁴	2.578	down
4	D-Lyxose	151.036	924.200	0.730	3.818x10 ⁻⁴	2.487	down
5	cis-Aconitate	173.007	77.400	0.120	5.549x10 ⁻⁷	2.419	down
6	Enalaprilat	349.184	918.800	1.440	5.815x10 ⁻³	2.155	up
7	(R) 2,3-Dihydroxy-3-methylvalerate	148.089	98.000	1.340	6.195x10 ⁻³	2.140	up
8	Sorbitol	183.081	941.700	2.200	6.375x10 ⁻³	2.135	up
9	4-Pyridoxic acid	182.044	282.000	1.580	1.497x10 ⁻³	2.018	up
10	4-Fumarylacetoacetate	201.053	117.300	1.160	1.731x10 ⁻²	1.946	up
11	Pimelic acid	159.969	33.300	1.820	1.738x10 ⁻²	1.939	up
12	6-Phosphogluconic acid	276.898	33.100	0.390	2.143x10 ⁻²	1.901	down
13	Isocitric acid	192.033	122.500	0.340	2.138x10 ⁻²	1.894	down
14	Oleamide	282.279	872.600	1.040	2.270x10 ⁻²	1.879	up
15	3-Hydroxymethylglutaric acid	145.050	59.500	0.400	2.476x10 ⁻²	1.866	down
16	Thiamine	265.112	96.300	0.180	2.760x10 ⁻²	1.834	down
17	Ciliatine	125.987	614.700	0.590	2.866x10 ⁻²	1.821	down
18	D-Galactose	179.055	95.200	0.530	9.531x10 ⁻³	1.814	down
19	L-Glutamic gamma-semialdehyde	131.049	282.500	0.860	3.171x10 ⁻²	1.802	down
20	Yohimbine	353.197	729.800	5.170	1.109x10 ⁻²	1.797	up
21	Linoleic acid	280.264	868.500	1.180	3.544x10 ⁻²	1.770	up
22	Geranyl acetate	179.144	629.100	0.500	3.748x10 ⁻²	1.750	down
23	Alpha-D-Glucose	179.055	932.000	0.410	1.419x10 ⁻²	1.749	down
24	Phosphoglycolic acid	155.992	941.700	0.930	4.276x10 ⁻²	1.718	down
25	Adipic acid	145.049	157.000	0.820	1.554x10 ⁻²	1.712	down
26	Guanosine	284.099	243.000	0.200	4.534x10 ⁻²	1.702	down
27	Dihydrouracil	112.984	864.200	1.400	2.752x10 ⁻²	1.596	up
28	Bovinic acid	279.231	801.500	0.500	2.571x10 ⁻²	1.584	down
29	Procollagen 5-hydroxy-L-lysine	197.806	162.200	0.230	3.209x10 ⁻²	1.546	down
30	Suberic acid	155.019	920.600	0.480	4.565x10 ⁻²	1.451	down
31	cis-4-Hydroxy-D-proline	129.974	104.500	1.300	4.848x10 ⁻²	1.433	up

Table SIII. PCR array.

gene name	T/M	Difference
Trp63	0.187752675	*
Trp73	0.2150048954	*
Dapk1	0.3133011837	*
Casp14	0.4022473555	*
Cd70	0.4955325077	*
Cd40	1.181870848	ns
Il10	0.998612237	ns
Tnf	0.881020123	ns
Bcl2l10	1.117290829	ns
Sphk2	0.679885778	ns
Xiap	0.875304524	ns
Pycard	0.788742445	ns
Birc6	1.067075788	ns
Card10	1.274311579	ns
Igflr	1.386341664	ns
Traf3	0.903018979	ns
Traf2	1.382731895	ns
Abl1	-	ns
Bak1	1.032108674	ns
Ltbr	0.716017557	ns
Atf5	1.111356955	ns
Nol3	0.823691364	ns
Bad	0.979010349	ns
Cflar	0.525788744	ns
Nfkb1	0.892748955	ns
Bag3	0.78024944	ns
Bcl2l11	0.135771845	ns
Bcl2l1	1.14527429	ns
Fadd	0.926871547	ns
Trp53bp2	0.743164852	ns
Gadd45a	0.874989772	ns
Birc5	1.246268869	ns
Ripk1	1.246653863	ns
Cradd	0.813154552	ns
Mcl1	1.020125412	ns
Bcl2l2	0.86570254	ns
Dffb	1.259704024	ns
Trp53	1.00439208	ns
Tnfsf12	0.925775398	ns
Nod1	1.05936001	ns
Mapk1	0.561192749	ns
Tnfrsf10b	1.152806412	ns
Tnfrsf12a	0.922007145	ns
Dffa	0.883621217	ns
Diablo	0.313301184	ns
Tnfrsf1a	0.141215475	ns
Akt1	-	ns

Casp3	1.305612148	ns
Tnfrsf11b	0.58574912	ns
Bok	1.119844112	ns
Apaf1	1.103461566	ns
Bag4	0.80174673	ns
Bag4	0.846625071	ns
Casp9	1.025638383	ns
Fasl	0.92878672	ns
Bnip3l	0.687756763	ns
Traf1	0.930021245	ns
Lhx4	0.878024027	ns
Casp6	1.090242167	ns
Casp1	1.000512851	ns
Bag1	1.166084412	ns
Prdx2	0.90874121	ns
Naip2	0.913870163	ns
Birc2	0.859311202	ns
Casp2	1.029342431	ns
Cideb	0.405960359	ns
Aifm1	-	ns
Anxa5	0.766663161	ns
Bcl2	0.766916616	ns
Bnip2	1.264080219	ns
Casp8	1.267887165	ns
Bcl10	0.990175648	ns
Ripk2	1.054441704	ns
Api5	0.937505217	ns
Casp7	0.944864269	ns
Nme5	-	ns
Bid	0.61068753	ns
Polb	1.187755415	ns
Dad1	-	ns
Birc3	0.897620869	ns
Casp4	0.391528299	ns
Bnip3	0.879410168	ns
Casp12	0.978774103	ns
Tnfsf10	0.958896511	ns
Fas	0.897888405	ns
Cidea	0.126807251	ns
Naip1	0.778434787	ns

ns, not significant.