

Supplement

Table S1 The designed primers for targeted genes and reference *act-1* gene

Gene	Primer
<i>dat-1</i>	ACCCAAAGATCCAGCAAGAGAACAG (F)
	CCAAATCTACAGCAAACCCGACAAC (R)
<i>sod-3</i>	ATCACTATTGCGGTTCAAGGCTCTG (F)
	TTGCACAGGTGGCGATCTTCAAG (R)
<i>gst-4</i>	AGTTGTTGAACCAGCCCGTGATG (F)
	CAGCCCAAGTCAATGAGTCTCCAAC (R)
<i>daf-2</i>	CCACGACGACGAGCACATCAC (F)
	CCACGACGACGAGCACATCAC (R)
<i>akt-1</i>	CGTTCTTGCTCTCGGATACCTTCAC (F)
	TCGGCTCGTCATTCAGATTCTTCATC (R)
<i>act-1</i>	GCCGGAGACGACGCTCCACGCG (F)
	GCCTCGTCTCCGACGTACGAGTC (R)

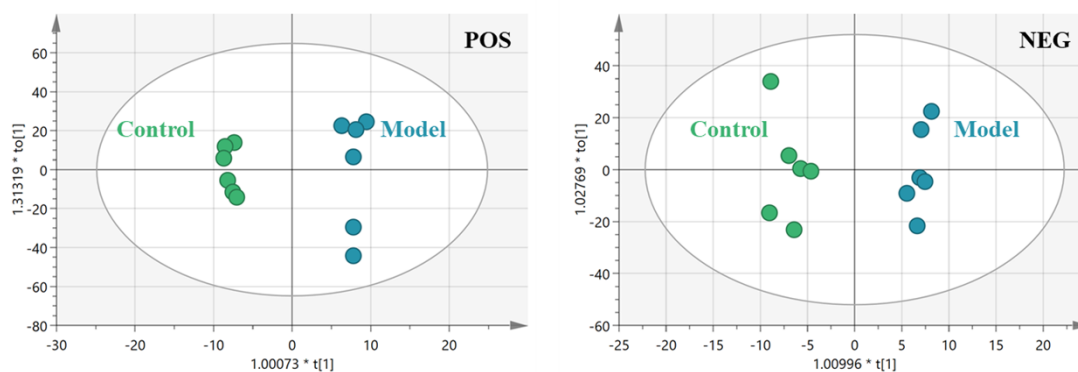


Figure S1. Orthogonal partial least-squares-discriminant analysis (OPLS-DA) score plots based on positive (POS) and negative (NEG) modes.

Table S2. Summary of parameters for assessment for the quality and reliability of OPLS-DA models

Analysis	R^2X_{cum}	R^2Y_{cum}	Q^2_{cum}	R intercept	Q intercept
POS	0.779	0.991	0.482	0.912	-0.258
NEG	0.518	0.968	0.202	0.896	-0.048

R^2X_{cum} and R^2Y_{cum} are the cumulative modeled variations in X and Y matrixes, respectively, and Q^2_{cum} is the cumulative predicted variation in Y matrixes. The value of R and Q is obtained after permutation test ($n = 200$).

Table S3. List of common affected lipids between Control vs. Model and Control vs. Model vs. Treatment

Lipids	Control vs. Model		Control vs. Model vs. Treatment	
	VIP	<i>p</i> _value	VIP	<i>p</i> _value
Cer 36:0;4O	1.610	0.036	1.162	0.029
Cer 44:1;2O	1.396	0.038	1.335	0.017
Cer 46:1;2O	1.600	0.021	1.504	0.028
Cer 49:1;2O	1.658	0.019	1.453	0.041
FA 16:1	1.990	0.006	1.619	0.040
FA 17:0	1.403	0.027	1.295	0.047
FA 22:1	1.745	0.004	1.594	0.012
FA 24:6	2.245	0.001	1.646	0.024
DG 40:5 DG 18:0_22:5	1.470	0.039	1.110	0.045
PC 33:0 PC 16:0_17:0	1.592	0.021	1.556	0.029
PC 34:3 PC 16:0_18:3	2.030	0.002	1.538	0.025
PC 35:2 PC 17:1_18:1	2.181	0.001	1.907	0.001
PC 35:3 PC 17:1_18:2	1.977	0.008	1.686	0.002
PC 36:2 PC 18:1_18:1	2.009	0.004	1.735	0.002
PC 37:4 PC 17:0_20:4	1.854	0.010	1.623	0.002
PC 37:6 PC 17:1_20:5	1.994	0.003	1.703	< 0.001
PC 39:4 PC 19:1_20:3	1.732	0.014	1.565	0.001
PC 39:6 PC 19:1_20:5	1.904	0.006	1.647	< 0.001
PC O-32:1 PC O-14:0_18:1	1.202	0.042	1.224	0.017
PC O-37:2 PC O-19:1_18:1	1.602	0.027	1.415	0.035
PC O-38:6 PC O-16:0_22:6	1.999	0.006	1.416	0.001
PC O-40:8 PC O-18:2_22:6	1.342	0.035	1.230	0.011
PE 30:0 PE 14:0_16:0	1.759	0.013	1.119	0.043
PE 32:0 PE 16:0_16:0	1.610	0.022	1.506	0.000
PE 33:1 PE 15:0_18:1	1.997	0.005	1.906	0.004
PE 33:1 PE 17:0_16:1	2.009	0.003	1.707	0.011
PE 36:3 PE 18:0_18:3	2.149	0.002	1.645	0.006
PE O-39:5 PE O-19:0_20:5	1.730	0.027	1.457	0.022
PG 28:0 PG 14:0_14:0	1.724	0.022	1.317	0.031
PG 30:0 PG 14:0_16:0	1.400	0.036	1.318	0.007
PG 32:0 PG 16:0_16:0	1.379	0.041	1.151	0.028
PG 34:0 PG 16:0_18:0	1.388	0.034	1.248	0.010
PG 35:1 PG 16:0_19:1	1.416	0.031	1.167	0.016

PG 36:2 PG 17:1_19:1	1.476	0.031	1.141	0.028
LPC O-14:0	1.608	0.012	1.212	0.028
LPC O-22:6	1.534	0.025	1.296	0.015
LPG 16:1	1.581	0.016	1.433	0.030
