

Metabolic Phenotyping of BMI to Characterize Cardiometabolic Risk: Evidence from Large Population-Based Cohorts

Supplementary Table 1: Baseline characteristics of the AusDiab participants stratified by Type 2 Diabetes and CVD status						
Characteristic	Cross-sectional T2DM analysis			Longitudinal T2DM analysis		
	Controls (NGT)	Prevalent T2DM	p-value	Controls (NGT)	Incident T2DM	p-value
n	7,733	395		5,354	218	
Age (years) ^a	48.9 (13.7)	61.6 (13.2)	6.25E-58	50.7 (12.6)	55.7 (12.0)	9.23E-09
Sex, n (%men) ^b	3,350 (43.3)	196 (49.6)	1.59E-02	2,409 (45.0)	112 (51.4)	7.41E-02
BMI (kg/m ²) ^a	26.2 (4.5)	28.9 (6.1)	2.07E-28	26.6 (4.6)	29.5 (5.6)	5.97E-13
WC (cm) ^a	88.5 (13.0)	100.0 (14.9)	1.21E-43	89.6 (13.2)	91.8 (14.5)	6.62E-17
Cholesterol (mmol/L) ^a	5.6 (1.1)	5.9 (1.1)	2.96E-08	5.7(1.1)	5.9 (1.1)	2.37E-04
HDL-C (mmol/L) ^a	1.45 (0.38)	1.35 (0.36)	1.34E-11	1.45 (0.38)	1.33 (0.40)	1.13E-05
Triglycerides (mmol/L) ^c	1.17 (0.9)	1.94 (1.6)	4.36E-55	1.21 (0.90)	1.70 (1.26)	9.03E-19
SBP (mmHg) ^a	126.0 (17.4)	145.0 (19.0)	6.11E-58	127.0 (17.2)	137.0 (17.6)	1.97E-12
DBP (mmHg) ^a	69.0 (11.4)	76.0 (11.8)	4.69E-24	69.8 (11.5)	74.7 (11.8)	5.84E-09
FBG (mmol/L) ^a	5.3 (0.4)	7.1 (1.9)	1.43E-60	5.4 (0.5)	6.0 (0.6)	1.86E-34
2h-PLG (mmol/L) ^a	5.5 (1.1)	12.3 (3.8)	1.07E-126	5.8 (1.5)	7.9 (1.8)	3.02E-41
HbA1C (%) ^a	5.1 (0.3)	5.9 (1.0)	1.38E-46	5.1 (0.3)	5.4 (0.3)	2.11E-37
Current smoking, n (%) ^b	1280 (16.5)	54 (13.7)	1.19E-01	584 (10.9)	35 (16.1)	2.38E-02
BP treatment, n (%) ^b	824 (10.7)	148 (37.5)	3.37E-57	655 (12.2)	62 (28.4)	5.13E-12
Lipid lowering medication, n (%) ^b	446 (5.8)	66 (16.7)	6.45E-18	371 (6.9)	35 (16.1)	7.47E-07
	Cross sectional CVD analysis			Longitudinal CVE analysis		
	Control	Prevalent CVD	p-value	Non-events	Incident CVE	p-value
n	9690	577		8,136	414	
Age (years) ^a	50.4 (13.9)	66.6 (11.5)	1.88E-140	50.2 (13.1)	67.2 (12.1)	2.99E-142
Sex, n (%men) ^b	4,279 (44.2)	339 (58.8)	1.02E-11	3506 (43.1)	390 (66.1)	2.89E-27
BMI (kg/m ²) ^a	26.9 (4.9)	27.9 (4.8)	2.89E-06	26.9 (4.9)	27.6 (4.4)	2.79E-04
WC (cm) ^a	90.4 (13.7)	96.6 (13.3)	4.44E-25	90.2 (13.7)	96.8 (12.4)	3.14E-32
Cholesterol (mmol/L) ^a	5.7 (1.1)	5.5 (1.1)	1.42E-04	5.7(1.1)	5.8 (1.1)	1.10E-02
HDL-C (mmol/L) ^a	1.45 (0.38)	1.35 (0.36)	6.24E-08	1.44 (0.38)	1.32 (0.37)	1.33E-13
Triglycerides (mmol/L) ^c	1.26 (1.0)	1.43 (1.1)	1.93E-06	1.23 (0.99)	1.52 (1.14)	2.98E-08
SBP (mmHg) ^a	129.0 (18.3)	140.0 (20.9)	6.01E-34	128.0 (17.7)	144.0 (20.4)	9.17E-62
DBP (mmHg) ^a	70.0 (11.7)	72.4 (11.9)	3.81E-06	69.9 (11.6)	74.6 (12.1)	1.85E-18
FBG (mmol/L) ^a	5.5 (1.0)	6.1 (1.9)	2.30E-13	5.5 (1.0)	6.0 (1.6)	1.91E-13
2h-PLG (mmol/L) ^a	6.2 (2.2)	7.2 (2.9)	4.88E-14	6.2 (2.1)	7.3 (3.0)	9.34E-16
HbA1C (%) ^a	5.2 (0.5)	5.6 (1.0)	1.95E-17	5.2 (0.5)	5.5 (0.9)	1.07E-19
Diabetes, n (%) ^b	567 (5.9)	114 (19.8)	2.23E-38	436 (5.4)	108 (18.3)	1.08E-17
Current smoking, n (%) ^b	1,538 (15.9)	77 (13.3)	1.19E-01	1153 (14.2)	84 (14.3)	9.90E-01
BP treatment, n (%) ^b	1,292 (13.3)	275 (47.7)	2.45E-109	655 (12.2)	62 (28.4)	5.13E-12
Lipid lowering medication, n (%) ^b	643 (6.6)	228 (37.1)	5.45E-143	371 (6.9)	35 (16.1)	7.47E-07

^aValues in the table expressed as mean (±SD) for continuous variables followed by independent t-tests;

^bPearson's Chi-squared test for dichotomous variables; ^cValues expressed in median (IQR); Significant p-values (<0.05) shown in bold.

Supplementary Table 2: Baseline characteristics of BHS participants stratified by CVD						
Characteristics	Control	Prevalent CVD		Non-events	Incident CVD	
n	4,254	238	p-value	3,970	284	p-value
Age (years) ^a	49.7 (17.0)	71.0 (9.5)	4.51E-103	48.2 (16.5)	68.8 (11.4)	2.67E-105
Sex, n (%men) ^b	1,826 (42.9)	150 (63.0)	1.83E-09	1,666 (42.3)	160 (51.1)	2.85E-03
BMI (kg/m ²) ^a	26.0 (4.2)	27.2 (4.0)	1.11E-05	25.9 (4.2)	27.2 (4.0)	6.77E-07
WC (cm) ^a	85.7 (12.6)	94.2 (11.8)	1.14E-21	85.1 (12.5)	94.2 (12.8)	5.70E-18
Cholesterol (mmol/L) ^a	5.6 (1.1)	6.0 (1.2)	5.94E-13	5.5 (1.1)	6.2 (1.1)	5.21E-20
HDL-C (mmol/L) ^a	1.40 (0.39)	1.26 (0.45)	3.24E-06	1.41 (0.39)	1.29 (0.41)	7.25E-07
Triglycerides (mmol/L) ^c	1.0 (0.8)	1.5 (1.1)	6.25E-10	1.0 (0.8)	1.4 (1.1)	2.05E-13
SBP (mmHg) ^a	124.0 (17.8)	135.0 (18.0)	3.53E-18	123.0 (17.3)	138.0 (17.2)	2.30E-41
DBP (mmHg) ^a	74.6 (10.5)	74.8 (12.4)	8.05E-01	74.4 (10.4)	77.5 (11.6)	3.84E-06
Diabetes, n (%) ^a	133 (3.1)	29 (12.2)	1.12E-12	94 (2.4)	39 (12.4)	3.35E-22
Current smoking, n (%) ^b	592 (13.9)	14 (5.8)	9.18E-04	577 (14.1)	35 (11.2)	3.47E-02
Lipid lowering medication, n (%) ^b	67 (1.6)	41 (17.2)	1.15E-51	58 (1.5)	9 (2.9)	9.22E-02

^aValues in the table expressed as mean (±SD) for continuous variables followed by independent t-tests;

^bPearson's Chi-squared test for dichotomous variables; ^cValues expressed in median (IQR); Significant p-values (<0.05) shown in bold.

Supplementary Table 3: Regularized linear models for the prediction of BMI				
Predicting BMI from lipidomic data (including age and sex)			Predicting BMI from clinical risk factors (adjusted for age, sex, total cholesterol, HDL-C and triglycerides)	
Model	Percent variance explained (R ²)		Percent variance explained (R ²)	
	AusDiab	Validation (BHS)	AusDiab	Validation (BHS)
Ridge	60.4	40.0	15.6	10.4
Elastic net	60.8	36.8	15.5	10.0
LASSO	60.9	35.9	15.6	10.2
Penalty parameters	Ridge (lamda average = 0.094)		Ridge (lamda average= 0.1618276)	
	Lasso (lamda average= 0.007371657)		Lasso (lamda average = 0.00556216)	
	Elastic net (lamda average= 0.02254397, alpha = 0.3)		Elastic net (lamda average=0.01275466, alpha = 0.3)	

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH)^b
1	dhCer(d18:0/16:0)	0.73	0.17	0.17	2.98E-18	5.60E-18
2	dhCer(d18:0/18:0)	1.58	0.15	0.15	4.34E-91	2.25E-90
3	dhCer(d18:0/20:0)	1.26	0.14	0.14	5.63E-73	2.36E-72
4	dhCer(d18:0/22:0)	2.12	0.14	0.14	5.43E-195	1.01E-193
5	dhCer(d18:0/24:0)	1.29	0.13	0.13	6.72E-85	3.28E-84
6	dhCer(d18:0/24:1)	1.80	0.14	0.14	3.60E-142	3.45E-141
7	Cer(d16:1/16:0)	1.09	0.15	0.15	2.16E-43	6.16E-43
8	Cer(d16:1/18:0)	2.76	0.17	0.17	5.17E-226	2.29E-224
9	Cer(d16:1/20:0)	1.68	0.15	0.15	6.40E-111	4.13E-110
10	Cer(d16:1/22:0)	1.50	0.16	0.17	1.03E-70	4.18E-70
11	Cer(d16:1/24:0)	0.30	0.16	0.16	2.34E-04	2.96E-04
12	Cer(d16:1/24:1)	1.13	0.15	0.15	1.61E-47	5.02E-47
13	Cer(d17:1/16:0)	0.23	0.12	0.12	3.37E-04	4.25E-04
14	Cer(d17:1/18:0)	0.99	0.11	0.11	3.65E-72	1.51E-71
15	Cer(d17:1/20:0)	1.01	0.15	0.15	4.78E-39	1.29E-38
16	Cer(d17:1/22:0)	0.95	0.15	0.15	1.53E-36	3.92E-36
17	Cer(d17:1/24:0)	0.00	0.14	0.14	9.74E-01	9.76E-01
18	Cer(d17:1/24:1)	0.29	0.13	0.13	1.64E-05	2.17E-05
19	Cer(d18:1/14:0)	0.10	0.15	0.15	1.95E-01	2.10E-01
20	Cer(d18:1/16:0)	0.22	0.09	0.09	9.63E-07	1.35E-06
21	Cer(d18:1/18:0)	2.17	0.13	0.13	4.81E-218	1.63E-216
22	Cer(d18:1/20:0)	1.42	0.12	0.12	5.11E-112	3.38E-111
23	Cer(d18:1/22:0)	1.19	0.12	0.12	5.62E-83	2.65E-82
24	Cer(d18:1/24:0)	0.29	0.11	0.11	4.80E-07	6.78E-07
25	Cer(d18:1/24:1)	0.50	0.11	0.11	3.96E-19	7.65E-19
26	Cer(d18:1/26:0)	-0.08	0.11	0.11	1.61E-01	1.76E-01
27	Cer(d18:2/14:0)	0.84	0.20	0.20	4.00E-16	7.12E-16
28	Cer(d18:2/16:0)	0.58	0.12	0.12	6.41E-22	1.28E-21
29	Cer(d18:2/17:0)	-0.08	0.23	0.23	4.94E-01	5.12E-01
30	Cer(d18:2/18:0)	2.15	0.16	0.16	5.93E-153	6.81E-152
31	Cer(d18:2/20:0)	0.90	0.12	0.12	1.42E-46	4.40E-46
32	Cer(d18:2/22:0)	0.98	0.14	0.14	7.41E-42	2.05E-41
33	Cer(d18:2/24:0)	-0.11	0.14	0.14	9.92E-02	1.10E-01
34	Cer(d18:2/24:1)	0.42	0.13	0.13	1.87E-10	2.92E-10
35	Cer(d18:2/26:0)	-0.67	0.16	0.16	1.33E-16	2.41E-16
36	Cer(d19:1/16:0)	0.64	0.18	0.18	1.27E-11	2.04E-11
37	Cer(d19:1/18:0)	2.67	0.20	0.20	1.58E-145	1.54E-144
38	Cer(d19:1/20:0)	1.83	0.19	0.19	1.64E-80	7.53E-80
39	Cer(d19:1/22:0)	1.90	0.17	0.17	1.24E-100	7.01E-100
40	Cer(d19:1/24:0)	0.91	0.16	0.16	2.67E-30	6.30E-30
41	Cer(d19:1/24:1)	1.00	0.17	0.17	3.59E-31	8.60E-31
42	Cer(d19:1/26:0)	0.15	0.15	0.15	4.27E-02	4.86E-02
43	Cer(d20:1/22:0)	1.72	0.16	0.16	8.70E-101	4.96E-100

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
44	Cer(d20:1/24:0)	1.01	0.14	0.14	2.64E-45	7.88E-45
45	Cer(d20:1/24:1)	1.25	0.15	0.15	2.48E-57	8.53E-57
46	Cer(d20:1/26:0)	0.06	0.11	0.11	2.52E-01	2.70E-01
47	HexCer(d16:1/18:0)	0.94	0.18	0.18	1.14E-25	2.43E-25
48	HexCer(d16:1/20:0)	0.28	0.15	0.16	3.44E-04	4.30E-04
49	HexCer(d16:1/22:0)	-0.03	0.14	0.14	6.75E-01	6.88E-01
50	HexCer(d16:1/24:0)	-0.26	0.14	0.14	3.86E-04	4.83E-04
51	HexCer(d18:1/16:0)	-0.27	0.11	0.11	2.96E-06	4.05E-06
52	HexCer(d18:1/18:0)	-0.59	0.12	0.12	4.19E-21	8.26E-21
53	HexCer(d18:1/20:0)	-0.78	0.12	0.12	1.08E-35	2.70E-35
54	HexCer(d18:1/22:0)	-0.69	0.12	0.12	4.25E-29	9.81E-29
55	HexCer(d18:1/24:0)	-0.98	0.12	0.12	1.35E-54	4.55E-54
56	HexCer(d18:1/24:1)	-0.90	0.12	0.12	5.63E-46	1.70E-45
57	HexCer(d18:2/18:0)	-0.22	0.17	0.17	1.18E-02	1.38E-02
58	HexCer(d18:2/20:0)	-0.38	0.16	0.16	1.89E-06	2.61E-06
59	HexCer(d18:2/22:0)	-0.69	0.13	0.13	2.50E-25	5.26E-25
60	HexCer(d18:2/24:0)	-0.87	0.12	0.12	2.55E-44	7.53E-44
61	Hex2Cer(d16:1/16:0)	0.42	0.13	0.13	1.07E-10	1.68E-10
62	Hex2Cer(d16:1/24:1)	-0.21	0.17	0.17	1.22E-02	1.43E-02
63	Hex2Cer(d18:1/16:0)	-0.79	0.11	0.11	1.07E-47	3.37E-47
64	Hex2Cer(d18:1/18:0)	-2.03	0.15	0.15	8.82E-155	1.04E-153
65	Hex2Cer(d18:1/20:0)	-0.24	0.14	0.14	8.17E-04	1.00E-03
66	Hex2Cer(d18:1/22:0)	-0.60	0.11	0.11	3.89E-26	8.48E-26
67	Hex2Cer(d18:1/24:0)	-0.75	0.11	0.11	6.32E-38	1.68E-37
68	Hex2Cer(d18:1/24:1)	-1.01	0.12	0.12	6.08E-60	2.16E-59
69	Hex2Cer(d18:2/16:0)	0.07	0.11	0.11	1.82E-01	1.97E-01
70	Hex2Cer(d18:2/24:1)	-0.67	0.13	0.13	1.67E-22	3.39E-22
71	Hex3Cer(d18:1/16:0)	-0.91	0.09	0.09	3.13E-89	1.59E-88
72	Hex3Cer(d18:1/18:0)	-0.96	0.13	0.13	3.73E-46	1.14E-45
73	Hex3Cer(d18:1/20:0)	-1.17	0.17	0.17	7.10E-43	1.99E-42
74	Hex3Cer(d18:1/22:0)	-1.37	0.12	0.12	3.94E-104	2.34E-103
75	Hex3Cer(d18:1/24:0)	-1.53	0.13	0.13	1.48E-117	1.09E-116
76	Hex3Cer(d18:1/24:1)	-1.32	0.11	0.11	5.96E-116	4.23E-115
77	GM3(d18:1/16:0)	-0.80	0.08	0.08	8.84E-85	4.27E-84
78	GM3(d18:1/18:0)	-0.88	0.10	0.10	6.33E-59	2.19E-58
79	GM3(d18:1/20:0)	-0.26	0.12	0.12	1.64E-05	2.17E-05
80	GM3(d18:1/22:0)	-0.27	0.12	0.12	1.10E-05	1.48E-05
81	GM3(d18:1/24:0)	-1.62	0.12	0.12	1.39E-147	1.43E-146
82	GM3(d18:1/24:1)	-1.40	0.12	0.12	1.81E-110	1.16E-109
83	GM3(d18:2/24:1)	-0.84	0.20	0.20	4.66E-16	8.26E-16
84	GM1(d18:1/16:0)	-0.56	0.10	0.10	9.93E-26	2.12E-25
85	Sulfatide(d18:1/16:0(OH))	-1.16	0.12	0.12	6.61E-82	3.07E-81
86	Sulfatide(d18:1/16:0)	-1.11	0.12	0.13	2.67E-66	1.02E-65

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Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
87	Sulfatide(d18:1:/24:0(OH))	-0.79	0.19	0.19	5.72E-16	1.01E-15
88	Sulfatide(d18:1:/24:0)	-1.06	0.14	0.14	3.62E-48	1.16E-47
89	Sulfatide(d18:1:/24:1(OH))	-0.84	0.14	0.14	7.12E-31	1.69E-30
90	Sulfatide(d18:1:/24:1)	-2.06	0.15	0.15	2.86E-151	3.23E-150
91	SM(d17:1/14:0)	0.06	0.12	0.12	3.06E-01	3.27E-01
92	SM(d18:0/14:0)	0.42	0.11	0.11	6.36E-13	1.05E-12
93	SM(d18:1/14:0)/SM(d16:1/16:0)	0.38	0.10	0.10	1.22E-14	2.06E-14
94	SM(d18:2/14:0)	1.55	0.10	0.10	8.90E-200	1.71E-198
95	SM(d17:1/16:0)	-0.08	0.10	0.10	1.08E-01	1.18E-01
96	SM(d18:0/16:0)	-0.19	0.09	0.09	1.29E-05	1.73E-05
97	SM(d18:1/16:0)	-0.36	0.07	0.07	5.58E-24	1.16E-23
98	SM(d18:2/16:0)	0.77	0.08	0.08	1.96E-88	9.88E-88
99	SM(34:3)	0.98	0.09	0.09	3.51E-98	1.94E-97
100	SM(d16:1/19:0)	-0.15	0.12	0.12	9.18E-03	1.09E-02
101	SM(d18:1/17:0)/SM(d17:1/18:0)	0.16	0.10	0.10	1.60E-03	1.94E-03
102	SM(d18:2/17:0)	0.55	0.10	0.10	3.18E-26	6.96E-26
103	SM(35:2)(b)	-0.15	0.09	0.09	6.61E-04	8.16E-04
104	SM(d18:1/18:0)/SM(d16:1/20:0)	0.85	0.09	0.09	3.79E-75	1.66E-74
105	SM(d18:2/18:0)	1.11	0.09	0.09	2.24E-126	1.90E-125
106	SM(d18:2/18:1)	0.78	0.11	0.11	2.76E-44	8.10E-44
107	SM(37:2)	-0.01	0.11	0.11	8.68E-01	8.74E-01
108	SM(d18:1/20:0)/SM(d16:1/22:0)	0.40	0.09	0.09	2.53E-20	4.95E-20
109	SM(d18:2/20:0)	0.29	0.08	0.08	2.56E-12	4.16E-12
110	SM(d16:1/23:0)/SM(d17:1/22:0)	0.36	0.10	0.10	1.81E-11	2.90E-11
111	SM(d18:0/22:0)	2.62	0.14	0.14	6.96E-286	2.00E-283
112	SM(d18:1/22:0)/SM(d16:1/24:0)	0.59	0.09	0.09	2.39E-36	6.10E-36
113	SM(d16:1/24:1)	0.27	0.10	0.10	7.54E-08	1.10E-07
114	SM(d18:2/22:0)	0.25	0.09	0.09	1.30E-08	1.93E-08
115	SM(41:0)	1.39	0.11	0.11	5.42E-126	4.51E-125
116	SM(41:1)(a)	1.28	0.14	0.14	7.32E-71	2.99E-70
117	SM(d18:1/23:0)/SM(d17:1/24:0)	0.41	0.09	0.09	3.15E-17	5.80E-17
118	SM(d17:1/24:1)	-0.06	0.09	0.09	1.69E-01	1.84E-01
119	SM(d18:2/23:0)	-0.09	0.09	0.09	5.99E-02	6.76E-02
120	SM(d18:1/24:0)	0.20	0.10	0.10	4.57E-05	5.96E-05
121	SM(d18:1/24:1)	-0.07	0.09	0.09	1.06E-01	1.17E-01
122	SM(d18:2/24:0)	-0.40	0.09	0.09	3.01E-20	5.87E-20
123	SM(43:1)	0.25	0.11	0.11	7.45E-06	1.01E-05
124	SM(d19:1/24:1)	0.47	0.13	0.13	3.76E-12	6.07E-12
125	SM(43:2)(b)	0.05	0.10	0.10	3.54E-01	3.75E-01
126	SM(43:2)(c)	-0.61	0.11	0.11	1.10E-26	2.42E-26
127	PC(28:0)	0.09	0.24	0.24	4.64E-01	4.82E-01
128	PC(14:0_16:0)	0.00	0.14	0.14	9.81E-01	9.81E-01
129	PC(31:0)(a)	0.60	0.21	0.21	1.06E-08	1.58E-08

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #		Linear regression (BMI) and lipids adjusting for age and sex				
	Lipid species	Percent difference per unit of BMI^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH)^b
130	PC(31:0)(b)	-0.33	0.12	0.12	6.81E-08	9.92E-08
131	PC(16:0_16:0)	-0.18	0.09	0.09	3.61E-05	4.72E-05
132	PC(32:1)	1.57	0.19	0.19	6.86E-62	2.48E-61
133	PC(32:2)	0.40	0.15	0.15	3.03E-07	4.30E-07
134	PC(33:0)(a)	0.19	0.14	0.14	6.62E-03	7.93E-03
135	PC(33:0)(b)	-0.39	0.09	0.09	1.29E-15	2.27E-15
136	PC(33:1)	0.26	0.13	0.13	1.07E-04	1.37E-04
137	PC(33:2)	-0.56	0.12	0.12	6.79E-19	1.31E-18
138	PC(16:0_18:0)	-0.08	0.08	0.08	6.51E-02	7.33E-02
139	PC(16:0_18:1)	0.18	0.09	0.09	8.69E-05	1.12E-04
140	PC(16:0_18:2)	-0.21	0.06	0.06	2.29E-13	3.79E-13
141	PC(16:1_18:2)	-0.13	0.13	0.13	4.46E-02	5.06E-02
142	PC(16:0_18:3)(a)	-0.25	0.14	0.14	4.64E-04	5.76E-04
143	PC(16:0_18:3)(b)	0.91	0.15	0.15	4.28E-33	1.04E-32
144	PC(14:0_20:4)	1.07	0.17	0.17	6.86E-34	1.68E-33
145	PC(34:5)	1.07	0.24	0.24	7.02E-19	1.35E-18
146	PC(15-MHDA_18:1)	-0.57	0.13	0.13	3.48E-17	6.36E-17
147	PC(17:0_18:1)	-0.31	0.11	0.11	1.32E-08	1.96E-08
148	PC(15-MHDA_18:2)	-0.93	0.12	0.12	8.98E-48	2.85E-47
149	PC(17:0_18:2)	-0.92	0.10	0.10	8.51E-74	3.62E-73
150	PC(17:1_18:2)	-0.78	0.11	0.11	7.16E-44	2.07E-43
151	PC(15:0_20:3)	0.35	0.12	0.12	4.26E-09	6.43E-09
152	PC(15:0_20:4)	0.24	0.13	0.13	3.22E-04	4.07E-04
153	PC(35:5)	0.23	0.20	0.20	2.50E-02	2.87E-02
154	PC(18:0_18:1)	0.69	0.12	0.12	1.20E-28	2.73E-28
155	PC(18:1_18:1)	-0.67	0.10	0.10	4.89E-36	1.23E-35
156	PC(18:0_18:2)	0.02	0.08	0.08	5.34E-01	5.52E-01
157	PC(18:1_18:2)	-1.09	0.09	0.09	3.71E-112	2.48E-111
158	PC(16:0_20:3)(a)	1.00	0.10	0.10	5.68E-88	2.84E-87
159	PC(16:0_20:3)(b)	1.12	0.16	0.16	1.47E-43	4.23E-43
160	PC(18:2_18:2)	-1.30	0.12	0.12	9.18E-100	5.12E-99
161	PC(16:0_20:4)	0.48	0.08	0.08	2.24E-29	5.22E-29
162	PC(16:1_20:4)	0.65	0.14	0.14	1.31E-18	2.49E-18
163	PC(16:0_20:5)	0.54	0.18	0.18	8.57E-09	1.29E-08
164	PC(36:6)(a)	0.65	0.20	0.20	5.20E-10	8.06E-10
165	PC(14:0_22:6)	0.14	0.17	0.17	9.40E-02	1.05E-01
166	PC(15-MHDA_20:4)	-0.10	0.12	0.12	1.04E-01	1.15E-01
167	PC(17:0_20:4)	-0.10	0.12	0.12	9.49E-02	1.06E-01
168	PC(15:0_22:6)	-0.86	0.15	0.15	4.55E-28	1.03E-27
169	PC(38:2)	0.58	0.09	0.09	1.00E-36	2.60E-36
170	PC(18:0_20:3)	2.37	0.12	0.12	1.00E+00	1.00E+00
171	PC(18:1_20:3)	0.60	0.11	0.11	1.86E-28	4.20E-28
172	PC(38:4)(b)	1.19	0.11	0.11	1.55E-95	8.40E-95

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
173	PC(18:0_20:4)	0.96	0.10	0.10	5.66E-73	2.36E-72
174	PC(38:5)(a)	-0.08	0.09	0.09	6.95E-02	7.81E-02
175	PC(38:5)(b)	0.63	0.13	0.13	7.48E-23	1.53E-22
176	PC(38:6)(a)	-0.40	0.11	0.11	2.57E-12	4.18E-12
177	PC(16:0_22:6)	-0.41	0.13	0.13	1.56E-10	2.44E-10
178	PC(18:2_20:5)	-0.70	0.17	0.17	3.20E-15	5.55E-15
179	PC(16:1_22:6)	-0.71	0.14	0.14	2.68E-22	5.41E-22
180	PC(38:7)(c)	-0.38	0.12	0.12	5.52E-10	8.53E-10
181	PC(39:5)(a)	-1.26	0.14	0.14	3.49E-63	1.30E-62
182	PC(39:5)(b)	-0.60	0.11	0.11	4.14E-25	8.69E-25
183	PC(15-MHDA_22:6)	-1.34	0.15	0.15	3.98E-68	1.55E-67
184	PC(17:0_22:6)	-1.08	0.15	0.15	8.71E-47	2.71E-46
185	PC(18:0_22:4)	1.77	0.15	0.15	1.01E-113	6.95E-113
186	PC(20:0_20:4)	-0.18	0.13	0.13	7.94E-03	9.47E-03
187	PC(18:0_22:5)(n3)	0.86	0.12	0.12	3.49E-44	1.02E-43
188	PC(18:0_22:5)(n6)	1.30	0.14	0.14	1.46E-69	5.80E-69
189	PC(18:0_22:6)	0.73	0.13	0.13	6.24E-27	1.38E-26
190	PC(40:7)(a)	0.19	0.12	0.12	2.68E-03	3.24E-03
191	PC(18:1_22:6)(a)	-1.63	0.12	0.12	8.58E-148	8.97E-147
192	PC(18:1_22:6)(b)	-0.40	0.14	0.14	3.58E-08	5.27E-08
193	PC(40:8)	-1.16	0.11	0.11	2.79E-92	1.47E-91
194	PC(O-16:0/16:0)	-0.53	0.08	0.08	4.03E-37	1.05E-36
195	PC(O-32:1)	-0.70	0.10	0.10	1.67E-46	5.15E-46
196	PC(O-32:2)	-0.92	0.20	0.20	9.59E-20	1.86E-19
197	PC(O-34:1)	-0.99	0.08	0.08	1.00E-137	9.13E-137
198	PC(O-34:2)	-1.25	0.12	0.12	1.37E-87	6.79E-87
199	PC(O-34:4)	0.08	0.18	0.18	4.00E-01	4.19E-01
200	PC(O-36:0)	-0.50	0.10	0.10	1.13E-24	2.37E-24
201	PC(O-18:0/18:1)	-0.93	0.10	0.10	4.00E-76	1.78E-75
202	PC(O-18:1/18:1)	-1.20	0.10	0.10	1.63E-120	1.25E-119
203	PC(O-18:0/18:2)	-1.50	0.12	0.12	2.58E-129	2.22E-128
204	PC(O-18:1/18:2)	-1.24	0.11	0.11	1.26E-106	7.71E-106
205	PC(O-16:0/20:3)	0.02	0.10	0.10	6.52E-01	6.66E-01
206	PC(O-16:0/20:4)	0.00	0.09	0.09	9.33E-01	9.38E-01
207	PC(O-36:5)	-0.30	0.17	0.17	9.49E-04	1.16E-03
208	PC(O-18:0/20:4)	-0.27	0.10	0.10	3.54E-08	5.22E-08
209	PC(O-38:5)	-0.34	0.08	0.08	4.07E-17	7.43E-17
210	PC(O-16:0/22:6)	-0.31	0.12	0.12	1.25E-06	1.74E-06
211	PC(O-40:5)	-0.58	0.09	0.09	3.14E-38	8.39E-38
212	PC(O-18:0/22:6)	-0.80	0.11	0.11	1.57E-47	4.93E-47
213	PC(O-40:7)(a)	-0.64	0.12	0.12	8.39E-24	1.74E-23
214	PC(O-40:7)(b)	-0.33	0.10	0.10	1.58E-11	2.54E-11
215	PC(P-16:0/14:0)	-0.61	0.11	0.11	5.71E-28	1.28E-27

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
216	PC(P-16:0/16:0)	-0.73	0.09	0.09	1.13E-62	4.15E-62
217	PC(P-16:0/16:1)	-0.75	0.11	0.11	2.84E-41	7.82E-41
218	PC(P-16:0/18:0)	-1.01	0.08	0.08	8.29E-122	6.53E-121
219	PC(P-16:0/18:1)	-1.53	0.10	0.10	4.02E-204	9.64E-203
220	PC(P-16:0/18:2)	-1.50	0.11	0.11	1.09E-139	1.01E-138
221	PC(P-16:0/18:3)	-1.39	0.15	0.15	8.67E-75	3.75E-74
222	PC(P-15:0/20:4)(a)	0.58	0.24	0.24	2.85E-06	3.91E-06
223	PC(P-15:0/20:4)(b)	0.07	0.16	0.16	4.23E-01	4.42E-01
224	PC(P-18:1/18:1)	-1.21	0.11	0.11	5.19E-102	2.98E-101
225	PC(P-18:0/18:2)	-1.99	0.13	0.13	2.70E-189	4.56E-188
226	PC(P-36:3)	-0.18	0.10	0.10	4.27E-04	5.33E-04
227	PC(P-16:0/20:4)	-0.07	0.11	0.11	1.83E-01	1.98E-01
228	PC(P-16:0/20:5)	-0.22	0.18	0.18	1.59E-02	1.85E-02
229	PC(P-17:0/20:4)(a)	-0.40	0.13	0.13	6.48E-10	9.96E-10
230	PC(P-17:0/20:4)(b)	-0.34	0.13	0.13	2.74E-07	3.90E-07
231	PC(P-18:0/20:4)	-0.39	0.12	0.12	9.40E-10	1.44E-09
232	PC(P-38:5)(a)	-0.07	0.10	0.10	1.62E-01	1.76E-01
233	PC(P-38:5)(b)	-0.50	0.13	0.13	9.83E-15	1.66E-14
234	PC(P-16:0/22:6)	-0.70	0.13	0.13	9.41E-26	2.02E-25
235	PC(P-20:0/20:4)	-0.77	0.10	0.10	3.62E-50	1.18E-49
236	PC(P-18:0/22:5)	-0.86	0.09	0.09	1.38E-69	5.52E-69
237	PC(P-18:0/22:6)	-1.41	0.13	0.13	3.32E-91	1.74E-90
238	PC(P-18:1/22:6)	-0.91	0.11	0.11	1.64E-55	5.57E-55
239	LPC(14:0)[sn2]	0.65	0.15	0.15	8.81E-17	1.60E-16
240	LPC(14:0)[sn1]	0.70	0.16	0.16	2.41E-18	4.54E-18
241	LPC(15:0)[sn2]	-0.34	0.13	0.13	1.97E-07	2.84E-07
242	LPC(15:0)[sn1]	-0.38	0.13	0.13	8.73E-09	1.31E-08
243	LPC(16:0)[sn2]	-0.06	0.11	0.11	2.63E-01	2.81E-01
244	LPC(16:0)[sn1]	-0.04	0.09	0.09	4.00E-01	4.19E-01
245	LPC(16:1)[sn2]	0.62	0.15	0.15	1.78E-16	3.21E-16
246	LPC(16:1)[sn1]	0.41	0.13	0.13	2.64E-10	4.12E-10
247	LPC(15-MHDA)[sn2]	-1.01	0.14	0.14	2.03E-43	5.80E-43
248	LPC(15-MHDA)[sn1]/LPC(17:0)[sn2]	-0.95	0.13	0.13	3.80E-44	1.10E-43
249	LPC(15-MHDA)[sn1][104_sn1]	-0.94	0.14	0.14	3.88E-37	1.02E-36
250	LPC(17:0)[sn1]	-0.84	0.12	0.12	6.50E-43	1.83E-42
251	LPC(17:1)[sn2](a)	-0.57	0.13	0.13	2.03E-17	3.75E-17
252	LPC(17:1)[sn1](a)/LPC(17:1)[sn2](b)	-0.56	0.12	0.13	3.16E-18	5.91E-18
253	LPC(17:1)(a)[sn1][104_sn1]	-0.52	0.13	0.13	8.62E-16	1.52E-15
254	LPC(17:1)[sn1](b)	-0.82	0.14	0.14	7.87E-31	1.86E-30
255	LPC(18:0)[sn2]	0.11	0.12	0.12	7.46E-02	8.36E-02
256	LPC(18:0)[sn1]	0.12	0.11	0.11	3.88E-02	4.42E-02
257	LPC(18:1)[sn2]	-1.18	0.10	0.10	1.39E-111	9.09E-111
258	LPC(18:1)[sn1]	-1.19	0.11	0.11	9.89E-97	5.42E-96

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
259	LPC(18:2)[sn2]	-1.90	0.11	0.11	1.60E-231	9.20E-230
260	LPC(18:2)[sn1]	-2.15	0.12	0.12	1.63E-247	1.56E-245
261	LPC(18:3)[sn2](a)	-1.71	0.17	0.17	1.21E-82	5.67E-82
262	LPC(18:3)[sn1](a)/LPC(18:3)[sn2](b)	-1.38	0.16	0.16	1.20E-59	4.23E-59
263	LPC(18:3)[sn1](b)	-0.65	0.16	0.16	6.78E-15	1.16E-14
264	LPC(19:0)[sn2](a)	-0.87	0.13	0.13	8.25E-38	2.19E-37
265	LPC(19:0)[sn1](a)/LPC(19:0)[sn2](b)	-1.14	0.12	0.12	1.87E-75	8.27E-75
266	LPC(19:0)(a)[sn1][104_sn1]	-0.72	0.13	0.13	6.66E-26	1.43E-25
267	LPC(19:0)[sn1](b)	-1.41	0.12	0.12	2.37E-118	1.77E-117
268	LPC(20:0)[sn2]	-1.61	0.11	0.11	1.89E-167	2.47E-166
269	LPC(20:0)[sn1]	-1.64	0.11	0.11	1.95E-179	2.73E-178
270	LPC(20:1)[sn2]	-1.55	0.12	0.12	2.26E-140	2.13E-139
271	LPC(20:1)[sn1]	-1.48	0.10	0.10	4.95E-165	6.32E-164
272	LPC(20:2)[sn2]	-0.94	0.11	0.11	3.81E-63	1.41E-62
273	LPC(20:2)[sn1]	-1.14	0.11	0.11	2.54E-95	1.37E-94
274	LPC(20:3)[sn2]	0.63	0.11	0.11	3.87E-27	8.66E-27
275	LPC(20:3)[sn1]	0.32	0.12	0.12	1.71E-07	2.47E-07
276	LPC(20:4)[sn2]	-0.13	0.11	0.11	2.21E-02	2.55E-02
277	LPC(20:4)[sn1]	-0.40	0.13	0.13	3.67E-10	5.70E-10
278	LPC(20:5)[sn2]	-0.14	0.19	0.19	1.43E-01	1.57E-01
279	LPC(20:5)[sn1]	-0.24	0.19	0.19	1.38E-02	1.61E-02
280	LPC(22:0)[sn2]	-1.68	0.11	0.11	1.38E-182	2.09E-181
281	LPC(22:0)[sn1]	-1.75	0.11	0.11	4.87E-203	1.08E-201
282	LPC(22:1)[sn2]	-1.73	0.14	0.14	3.11E-131	2.75E-130
283	LPC(22:1)[sn1]	-1.84	0.14	0.14	7.10E-146	7.04E-145
284	LPC(22:4)[sn2]	-0.05	0.13	0.13	4.49E-01	4.68E-01
285	LPC(22:4)[sn1]	-0.28	0.14	0.14	6.58E-05	8.49E-05
286	LPC(22:5)[sn2](n3)	-0.86	0.13	0.13	1.35E-36	3.49E-36
287	LPC(22:5)[sn1](n3)/LPC(22:5)[sn2](n6)	-0.96	0.14	0.14	3.29E-42	9.14E-42
288	LPC(22:5)[sn1](n6)	-0.58	0.15	0.15	2.23E-14	3.73E-14
289	LPC(22:6)[sn2]	-0.92	0.13	0.13	2.16E-40	5.89E-40
290	LPC(22:6)[sn1]	-1.18	0.14	0.14	4.74E-59	1.65E-58
291	LPC(24:0)[sn2]	-1.57	0.10	0.10	9.78E-207	2.45E-205
292	LPC(24:0)[sn1]	-1.59	0.10	0.10	6.64E-213	2.01E-211
293	LPC(26:0)[sn2]	-1.95	0.12	0.12	1.77E-218	6.36E-217
294	LPC(26:0)[sn1]	-1.80	0.10	0.10	6.68E-265	9.61E-263
295	LPC(O-16:0)	-0.37	0.11	0.11	2.84E-11	4.52E-11
296	LPC(O-18:0)	-0.86	0.12	0.12	5.04E-46	1.53E-45
297	LPC(O-18:1)	-0.51	0.12	0.12	9.33E-18	1.74E-17
298	LPC(O-20:0)	-1.44	0.11	0.11	4.16E-146	4.20E-145
299	LPC(O-20:1)	-1.08	0.12	0.12	4.42E-64	1.66E-63
300	LPC(O-22:0)	-1.24	0.09	0.09	2.98E-148	3.18E-147
301	LPC(O-22:1)	-1.72	0.12	0.12	2.18E-170	2.99E-169

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH)^b
302	LPC(O-24:0)	-0.99	0.11	0.11	3.98E-74	1.71E-73
303	LPC(O-24:1)	-1.22	0.11	0.11	2.14E-109	1.35E-108
304	LPC(O-24:2)	-2.09	0.14	0.14	3.43E-189	5.64E-188
305	LPC(P-16:0)	-0.68	0.11	0.11	3.05E-36	7.73E-36
306	LPC(P-18:0)	-1.13	0.10	0.10	1.78E-107	1.11E-106
307	LPC(P-18:1)	-0.62	0.12	0.12	8.68E-24	1.79E-23
308	LPC(P-20:0)	-1.68	0.10	0.10	5.39E-212	1.48E-210
309	PE(16:0_16:0)	0.52	0.18	0.18	2.73E-08	4.05E-08
310	PE(16:0_16:1)	2.94	0.33	0.33	1.23E-68	4.82E-68
311	PE(16:0_18:1)	1.50	0.21	0.21	3.17E-45	9.39E-45
312	PE(16:0_18:2)	0.58	0.21	0.21	4.65E-08	6.81E-08
313	PE(16:1_18:2)	0.62	0.24	0.24	2.21E-07	3.17E-07
314	PE(16:0_18:3)(a)	0.12	0.26	0.27	3.64E-01	3.85E-01
315	PE(16:0_18:3)(b)	1.33	0.23	0.23	9.26E-29	2.11E-28
316	PE(15-MHDA_18:1)	0.60	0.21	0.21	2.82E-08	4.17E-08
317	PE(17:0_18:1)	1.31	0.20	0.20	1.61E-39	4.36E-39
318	PE(15-MHDA_18:2)	0.04	0.21	0.21	7.38E-01	7.47E-01
319	PE(17:0_18:2)	0.36	0.19	0.19	1.46E-04	1.86E-04
320	PE(36:0)	0.11	0.07	0.07	3.28E-03	3.95E-03
321	PE(18:0_18:1)	1.68	0.16	0.16	1.10E-89	5.64E-89
322	PE(18:1_18:1)	0.61	0.20	0.20	2.44E-09	3.72E-09
323	PE(18:0_18:2)	1.57	0.20	0.20	1.18E-53	3.96E-53
324	PE(18:1_18:2)	-0.46	0.20	0.20	3.67E-06	5.00E-06
325	PE(16:0_20:3)	0.65	0.20	0.20	1.09E-10	1.71E-10
326	PE(16:0_20:4)	0.44	0.20	0.20	1.29E-05	1.73E-05
327	PE(16:1_20:4)	0.12	0.25	0.25	3.50E-01	3.71E-01
328	PE(16:0_20:5)	0.30	0.24	0.24	1.73E-02	2.00E-02
329	PE(15-MHDA_20:4)	-0.28	0.21	0.21	8.42E-03	1.00E-02
330	PE(17:0_20:4)	0.31	0.17	0.17	4.34E-04	5.41E-04
331	PE(18:0_20:3)(a)	2.47	0.21	0.21	1.93E-121	1.50E-120
332	PE(18:0_20:3)(b)	1.13	0.18	0.18	6.44E-35	1.60E-34
333	PE(18:0_20:4)	1.34	0.18	0.18	2.98E-50	9.73E-50
334	PE(38:5)(a)	-0.23	0.18	0.18	1.18E-02	1.39E-02
335	PE(38:5)(b)	0.80	0.20	0.20	2.08E-15	3.63E-15
336	PE(16:0_22:6)	0.06	0.21	0.21	6.00E-01	6.13E-01
337	PE(15-MHDA_22:6)	-0.91	0.22	0.22	3.22E-16	5.76E-16
338	PE(17:0_22:6)	0.06	0.20	0.20	5.47E-01	5.63E-01
339	PE(18:0_22:4)	2.53	0.24	0.24	8.45E-95	4.50E-94
340	PE(18:0_22:5)(n3)	1.68	0.20	0.20	3.35E-59	1.17E-58
341	PE(18:0_22:5)(n6)	2.41	0.24	0.24	8.27E-84	3.96E-83
342	PE(18:0_22:6)	1.93	0.22	0.22	2.56E-67	9.87E-67
343	PE(18:1_22:6)(a)	-0.92	0.22	0.22	1.60E-15	2.80E-15
344	PE(18:1_22:6)(b)	0.37	0.22	0.22	8.10E-04	9.98E-04

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
345	PE(O-34:1)	-0.65	0.13	0.13	7.85E-22	1.57E-21
346	PE(O-16:0/18:2)	-1.33	0.17	0.17	1.97E-50	6.48E-50
347	PE(O-18:1/18:2)	-1.16	0.17	0.17	6.27E-41	1.72E-40
348	PE(O-16:0/20:3)	0.00	0.18	0.18	9.61E-01	9.65E-01
349	PE(O-16:0/20:4)	-0.44	0.18	0.18	1.98E-06	2.73E-06
350	PE(O-36:5)	-0.76	0.23	0.23	1.44E-10	2.26E-10
351	PE(O-16:0/22:4)	0.12	0.15	0.15	9.87E-02	1.09E-01
352	PE(O-18:0/20:4)	-0.67	0.17	0.17	1.95E-14	3.27E-14
353	PE(O-38:5)(a)	-0.24	0.15	0.15	1.21E-03	1.48E-03
354	PE(O-38:5)(b)	-0.39	0.15	0.15	2.64E-07	3.77E-07
355	PE(O-16:0/22:6)	-0.48	0.14	0.14	3.23E-11	5.14E-11
356	PE(O-18:0/22:6)	-0.84	0.13	0.13	1.94E-35	4.84E-35
357	PE(O-18:1/22:6)	-0.97	0.15	0.15	4.83E-34	1.19E-33
358	PE(P-15:0/20:4)	0.98	0.18	0.19	1.70E-25	3.61E-25
359	PE(P-15:0/22:6)(a)	-0.17	0.17	0.17	5.76E-02	6.52E-02
360	PE(P-15:0/22:6)(b)	0.17	0.15	0.15	2.53E-02	2.90E-02
361	PE(P-16:0/18:1)	-0.05	0.12	0.12	3.93E-01	4.13E-01
362	PE(P-16:0/18:2)	-0.26	0.15	0.15	6.25E-04	7.72E-04
363	PE(P-16:0/18:3)	-0.30	0.17	0.17	8.73E-04	1.07E-03
364	PE(P-16:0/20:3)(a)	1.21	0.16	0.16	1.44E-48	4.64E-48
365	PE(P-16:0/20:3)(b)	0.86	0.18	0.18	1.28E-21	2.53E-21
366	PE(P-16:0/20:4)	0.72	0.15	0.15	2.26E-20	4.43E-20
367	PE(P-16:0/20:5)	0.34	0.21	0.21	1.62E-03	1.97E-03
368	PE(P-16:0/22:4)	0.25	0.10	0.10	9.85E-07	1.38E-06
369	PE(P-16:0/22:5)(n3)	0.27	0.12	0.12	1.49E-05	1.98E-05
370	PE(P-16:0/22:5)(n6)	-0.11	0.13	0.13	9.69E-02	1.08E-01
371	PE(P-16:0/22:6)	0.10	0.13	0.13	1.11E-01	1.22E-01
372	PE(P-17:0/20:4)(a)	0.46	0.17	0.17	2.31E-07	3.31E-07
373	PE(P-17:0/20:4)(b)	0.59	0.17	0.17	1.82E-11	2.90E-11
374	PE(P-17:0/22:6)(a)	-0.35	0.15	0.15	2.96E-06	4.05E-06
375	PE(P-17:0/22:6)(b)	-0.38	0.15	0.15	1.08E-06	1.51E-06
376	PE(P-18:0/18:1)	-0.28	0.13	0.13	2.86E-05	3.77E-05
377	PE(P-18:0/18:2)	-0.85	0.15	0.15	1.08E-29	2.53E-29
378	PE(P-18:0/18:3)	-0.79	0.14	0.14	4.57E-26	9.91E-26
379	PE(P-18:0/20:3)(a)	0.51	0.15	0.16	7.54E-11	1.19E-10
380	PE(P-18:0/20:3)(b)	0.06	0.16	0.16	4.42E-01	4.61E-01
381	PE(P-18:0/20:4)	0.07	0.15	0.15	3.69E-01	3.89E-01
382	PE(P-18:0/20:5)	-0.45	0.21	0.21	3.00E-05	3.94E-05
383	PE(P-18:0/22:4)	-0.02	0.11	0.11	7.86E-01	7.94E-01
384	PE(P-18:0/22:5)(n3)	-0.14	0.13	0.13	3.65E-02	4.17E-02
385	PE(P-18:0/22:5)(n6)	-0.64	0.15	0.15	1.80E-16	3.23E-16
386	PE(P-18:0/22:6)	-0.70	0.14	0.14	7.36E-23	1.51E-22
387	PE(P-18:1/18:1)	-0.49	0.13	0.13	9.94E-14	1.65E-13

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
388	PE(P-18:1/18:1)(a)	-0.47	0.13	0.13	2.94E-12	4.77E-12
389	PE(P-18:1/18:1)(b)	-0.36	0.17	0.17	2.34E-05	3.09E-05
390	PE(P-18:1/18:2)(a)	-0.79	0.15	0.15	1.78E-25	3.76E-25
391	PE(P-18:1/18:2)(b)	-0.50	0.17	0.17	6.99E-09	1.05E-08
392	PE(P-18:1/18:3)	-0.70	0.15	0.15	7.22E-19	1.38E-18
393	PE(P-18:1/20:3)(a)	0.83	0.15	0.15	4.60E-26	9.94E-26
394	PE(P-18:1/20:3)(b)	0.48	0.16	0.16	2.21E-09	3.37E-09
395	PE(P-18:1/20:4)(a)	0.23	0.16	0.16	5.22E-03	6.27E-03
396	PE(P-18:1/20:4)(b)	0.43	0.16	0.16	2.40E-07	3.43E-07
397	PE(P-18:1/20:5)(a)	-0.27	0.20	0.20	7.42E-03	8.87E-03
398	PE(P-18:1/20:5)(b)	0.08	0.22	0.22	5.00E-01	5.17E-01
399	PE(P-18:1/22:4)	-0.13	0.12	0.12	3.24E-02	3.71E-02
400	PE(P-18:1/22:5)(a)	-0.14	0.11	0.11	1.41E-02	1.64E-02
401	PE(P-18:1/22:5)(b)	-0.31	0.14	0.14	1.34E-05	1.79E-05
402	PE(P-18:1/22:6)(a)	-0.60	0.15	0.15	2.24E-15	3.90E-15
403	PE(P-18:1/22:6)(b)	-0.20	0.14	0.14	4.11E-03	4.95E-03
404	PE(P-19:0/20:4)(a)	-0.41	0.18	0.19	1.40E-05	1.86E-05
405	PE(P-19:0/20:4)(b)	-0.41	0.16	0.16	2.92E-07	4.15E-07
406	PE(P-20:0/18:1)	-0.60	0.12	0.12	1.44E-21	2.85E-21
407	PE(P-20:0/18:2)	-1.45	0.13	0.13	4.06E-105	2.43E-104
408	PE(P-20:0/20:4)	-0.73	0.13	0.13	6.84E-27	1.51E-26
409	PE(P-20:0/22:6)	-1.57	0.13	0.13	6.28E-122	5.01E-121
410	PE(P-20:1/20:4)	-0.53	0.21	0.21	7.61E-07	1.07E-06
411	PE(P-20:1/22:6)	-1.31	0.18	0.18	4.18E-43	1.18E-42
412	LPE(16:0)[sn2]	-0.85	0.13	0.13	9.34E-37	2.43E-36
413	LPE(16:0)[sn1]	-0.84	0.13	0.13	1.98E-37	5.22E-37
414	LPE(17:0)[sn2]	-0.56	0.10	0.10	4.09E-27	9.11E-27
415	LPE(17:0)[sn1]	-0.39	0.13	0.13	2.75E-09	4.17E-09
416	LPE(18:0)[sn2]	-0.03	0.12	0.12	6.94E-01	7.05E-01
417	LPE(18:0)[sn1]	-0.02	0.12	0.12	7.21E-01	7.31E-01
418	LPE(18:1)[sn2]	-0.88	0.15	0.15	5.15E-32	1.25E-31
419	LPE(18:1)[sn1]	-0.83	0.14	0.14	7.09E-32	1.71E-31
420	LPE(18:2)[sn2]	-1.34	0.15	0.15	1.43E-70	5.75E-70
421	LPE(18:2)[sn1]	-1.29	0.14	0.14	7.05E-69	2.78E-68
422	LPE(20:4)[sn2]	-0.46	0.11	0.11	3.16E-15	5.49E-15
423	LPE(20:4)[sn1]	-0.56	0.11	0.11	4.79E-22	9.63E-22
424	LPE(22:6)[sn2]	-0.75	0.13	0.13	1.58E-29	3.69E-29
425	LPE(22:6)[sn1]	-0.86	0.13	0.13	4.26E-40	1.16E-39
426	LPE(P-16:0)	0.04	0.12	0.12	5.37E-01	5.53E-01
427	LPE(P-18:0)	-0.57	0.13	0.13	1.37E-18	2.60E-18
428	LPE(P-18:1)	0.07	0.13	0.13	3.12E-01	3.32E-01
429	LPE(P-20:0)	-1.29	0.11	0.11	7.97E-117	5.73E-116
430	PI(16:0/16:0)	1.10	0.29	0.29	7.74E-14	1.29E-13

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
431	PI(16:0_16:1)	3.46	0.29	0.29	2.19E-124	1.80E-123
432	PI(34:0)	-0.07	0.23	0.23	5.70E-01	5.84E-01
433	PI(34:1)	1.04	0.18	0.18	2.55E-29	5.90E-29
434	PI(15-MHDA_18:1)/PI(17:0_18:1)	0.43	0.16	0.16	5.11E-08	7.46E-08
435	PI(15-MHDA_18:2)/PI(17:0_18:2)	0.23	0.14	0.14	1.36E-03	1.66E-03
436	PI(18:0_18:1)	0.15	0.16	0.16	6.29E-02	7.09E-02
437	PI(36:2)	-0.15	0.13	0.13	2.13E-02	2.46E-02
438	PI(18:1_18:2)	-1.00	0.16	0.16	6.32E-32	1.53E-31
439	PI(16:0_20:3)(a)	0.19	0.15	0.15	1.22E-02	1.43E-02
440	PI(16:0_20:3)(b)	0.55	0.18	0.18	1.17E-09	1.79E-09
441	PI(16:0_20:4)	1.43	0.15	0.15	1.25E-77	5.64E-77
442	PI(15-MHDA_20:4)/PI(17:0_20:4)	0.80	0.14	0.14	4.96E-31	1.18E-30
443	PI(37:6)	-1.84	0.16	0.16	2.65E-102	1.56E-101
444	PI(18:0_20:2)	-0.41	0.15	0.15	4.33E-08	6.35E-08
445	PI(18:0_20:3)(a)	0.65	0.13	0.13	4.16E-24	8.66E-24
446	PI(18:0_20:3)(b)	-0.02	0.18	0.18	8.58E-01	8.66E-01
447	PI(18:0_20:4)	0.59	0.12	0.12	2.45E-22	4.96E-22
448	PI(38:5)(a)	0.28	0.14	0.14	5.89E-05	7.61E-05
449	PI(38:5)(b)	0.04	0.13	0.13	5.63E-01	5.78E-01
450	PI(38:6)	-0.29	0.16	0.16	5.91E-04	7.33E-04
451	PI(39:6)	-0.59	0.16	0.16	3.55E-13	5.85E-13
452	PI(18:0_22:4)	0.95	0.17	0.17	4.96E-27	1.10E-26
453	PI(20:0_20:4)	0.09	0.19	0.19	3.66E-01	3.86E-01
454	PI(18:0_22:5)(n3)	0.76	0.15	0.15	4.12E-23	8.47E-23
455	PI(18:0_22:5)(n6)	-0.31	0.16	0.16	2.06E-04	2.61E-04
456	PI(18:0_22:6)	-0.34	0.16	0.16	5.17E-05	6.71E-05
457	LPI(18:0)[sn2]	0.17	0.22	0.22	1.30E-01	1.43E-01
458	LPI(18:0)[sn1]	0.53	0.15	0.15	1.21E-12	1.98E-12
459	LPI(18:1)[sn2]	0.33	0.18	0.18	3.43E-04	4.30E-04
460	LPI(18:1)[sn1]	0.39	0.17	0.17	4.10E-06	5.57E-06
461	LPI(18:2)[sn2]	0.32	0.15	0.15	5.58E-05	7.23E-05
462	LPI(18:2)[sn1]	0.55	0.15	0.15	2.38E-13	3.93E-13
463	LPI(20:4)[sn2]	0.82	0.13	0.13	9.06E-35	2.24E-34
464	LPI(20:4)[sn1]	0.99	0.13	0.13	4.21E-53	1.39E-52
465	PS(36:1)	1.16	0.15	0.15	1.47E-53	4.87E-53
466	PS(36:2)	0.38	0.16	0.16	6.78E-06	9.19E-06
467	PS(38:3)	0.66	0.17	0.17	7.06E-15	1.20E-14
468	PS(38:4)	0.63	0.16	0.16	4.53E-15	7.80E-15
469	PS(38:5)	0.12	0.15	0.15	9.80E-02	1.09E-01
470	PS(40:5)	0.42	0.17	0.17	5.67E-07	7.99E-07
471	PS(40:6)	0.34	0.17	0.17	1.01E-04	1.30E-04
472	PG(34:1)	0.58	0.18	0.18	5.74E-10	8.85E-10
473	PG(36:1)	2.40	0.21	0.21	9.29E-115	6.51E-114

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH)^b
474	PG(36:2)	1.72	0.18	0.18	2.51E-76	1.13E-75
475	PG(34:2)	0.82	0.21	0.21	5.76E-15	9.86E-15
476	CE(14:0)	-0.20	0.15	0.15	8.70E-03	1.03E-02
477	CE(15:0)	-0.91	0.12	0.12	5.65E-46	1.70E-45
478	CE(16:0)	0.28	0.06	0.06	1.16E-19	2.25E-19
479	CE(16:1)	1.91	0.19	0.19	8.39E-84	3.99E-83
480	CE(16:2)	-0.78	0.16	0.16	8.79E-22	1.75E-21
481	CE(17:0)	0.11	0.12	0.12	7.91E-02	8.85E-02
482	CE(17:1)	0.33	0.14	0.14	2.54E-06	3.49E-06
483	CE(18:0)	0.98	0.12	0.12	1.86E-60	6.67E-60
484	CE(18:1)	0.31	0.07	0.07	3.11E-16	5.58E-16
485	CE(18:2)	-0.16	0.07	0.07	1.29E-06	1.79E-06
486	CE(18:3)	-0.84	0.15	0.15	8.84E-29	2.02E-28
487	CE(20:0)	0.53	0.13	0.13	7.87E-15	1.33E-14
488	CE(20:1)	-0.13	0.11	0.11	2.39E-02	2.75E-02
489	CE(20:2)	0.32	0.09	0.09	7.85E-13	1.29E-12
490	CE(20:3)	1.27	0.11	0.11	2.16E-117	1.57E-116
491	CE(20:4)	-1.78	0.17	0.17	2.23E-87	1.10E-86
492	CE(20:5)	-2.45	0.26	0.26	9.42E-74	3.98E-73
493	CE(22:0)	0.41	0.14	0.14	2.94E-09	4.45E-09
494	CE(22:1)	-0.19	0.15	0.15	1.03E-02	1.22E-02
495	CE(22:4)	-0.14	0.10	0.10	9.20E-03	1.09E-02
496	CE(22:5)(n3)	-1.35	0.21	0.21	2.64E-36	6.72E-36
497	CE(22:5)(n6)	-0.92	0.11	0.11	1.58E-55	5.41E-55
498	CE(22:6)	-1.29	0.16	0.16	5.21E-55	1.76E-54
499	CE(24:0)	0.23	0.10	0.10	1.29E-05	1.73E-05
500	CE(24:1)	-0.20	0.11	0.11	3.43E-04	4.30E-04
501	CE(24:4)	-0.03	0.14	0.14	6.92E-01	7.05E-01
502	CE(24:5)	-0.27	0.17	0.17	2.23E-03	2.70E-03
503	CE(24:6)	-0.06	0.17	0.17	4.56E-01	4.74E-01
504	COH	0.25	0.06	0.06	4.09E-15	7.06E-15
505	DE(16:0)	-0.24	0.20	0.20	1.72E-02	2.00E-02
506	DE(18:1)	0.92	0.11	0.11	5.32E-60	1.90E-59
507	DE(18:2)	-0.98	0.15	0.16	7.57E-35	1.88E-34
508	DE(20:4)	-0.88	0.20	0.20	9.18E-18	1.71E-17
509	DE(20:5)	0.15	0.22	0.22	1.84E-01	1.99E-01
510	DE(22:6)	-0.47	0.19	0.19	1.44E-06	2.00E-06
511	Acylcarnitine(12:0)	-0.35	0.17	0.17	4.58E-05	5.96E-05
512	Acylcarnitine(13:0)	-0.83	0.21	0.21	6.89E-15	1.17E-14
513	Acylcarnitine(14:0)	0.07	0.14	0.14	3.26E-01	3.47E-01
514	Acylcarnitine(14:1)	-0.12	0.21	0.21	2.37E-01	2.54E-01
515	Acylcarnitine(14:2)	-0.53	0.20	0.20	1.83E-07	2.65E-07
516	Acylcarnitine(15:0)(a)	-0.32	0.17	0.17	1.59E-04	2.03E-04

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
517	Acylcarnitine(15:0)(b)	0.18	0.15	0.15	1.70E-02	1.98E-02
518	Acylcarnitine(16:0)	0.52	0.11	0.12	1.53E-18	2.90E-18
519	Acylcarnitine(16:1)	0.61	0.15	0.15	4.82E-15	8.27E-15
520	Acylcarnitine(17:0)(a)	0.09	0.13	0.13	1.50E-01	1.64E-01
521	Acylcarnitine(17:0)(b)	-0.07	0.11	0.11	2.10E-01	2.26E-01
522	Acylcarnitine(18:0)	-0.50	0.11	0.11	3.43E-17	6.31E-17
523	Acylcarnitine(18:1)	0.25	0.12	0.12	3.33E-05	4.36E-05
524	Acylcarnitine(18:2)	-0.28	0.14	0.14	7.82E-05	1.01E-04
525	DG(14:0_16:0)	3.14	0.24	0.24	4.04E-149	4.38E-148
526	DG(16:0_16:0)	3.48	0.22	0.22	3.09E-207	8.07E-206
527	DG(16:0_16:1)	4.04	0.25	0.25	2.03E-222	7.78E-221
528	DG(14:0_18:2)	3.14	0.26	0.26	6.13E-124	4.96E-123
529	DG(16:0_18:1)	3.84	0.22	0.22	3.16E-243	2.60E-241
530	DG(16:1_18:1)	3.54	0.23	0.23	3.25E-203	7.47E-202
531	DG(16:0_18:2)	3.07	0.20	0.20	8.40E-190	1.46E-188
532	DG(18:0_18:1)	3.35	0.20	0.20	1.44E-222	5.90E-221
533	DG(18:1_18:1)	2.84	0.20	0.20	7.16E-170	9.57E-169
534	DG(18:0_18:2)	3.06	0.21	0.21	2.46E-182	3.63E-181
535	DG(18:1_18:2)	2.15	0.20	0.20	3.29E-102	1.91E-101
536	DG(18:2_18:2)	1.57	0.23	0.23	2.03E-42	5.68E-42
537	DG(18:1_18:3)	1.90	0.20	0.20	3.74E-80	1.71E-79
538	DG(16:0_20:4)	3.80	0.23	0.23	2.05E-229	1.07E-227
539	DG(18:1_20:3)	1.96	0.21	0.21	6.76E-75	2.94E-74
540	DG(18:0_20:4)	2.22	0.16	0.16	9.19E-159	1.12E-157
541	DG(18:1_20:4)	2.88	0.19	0.19	3.14E-183	5.02E-182
542	DG(16:0_22:5)	2.20	0.19	0.19	5.21E-114	3.61E-113
543	DG(18:2_20:4)	2.55	0.21	0.22	8.93E-120	6.76E-119
544	DG(16:0_22:6)	3.12	0.27	0.27	2.07E-112	1.40E-111
545	TG(48:0)[NL-16:0]	4.39	0.29	0.29	1.22E-191	2.19E-190
546	TG(48:1)[NL-18:1]	3.48	0.25	0.25	2.66E-162	3.32E-161
547	TG(48:2)[NL-14:1]	4.27	0.29	0.29	5.88E-183	9.14E-182
548	TG(48:2)[NL-16:1]	4.68	0.29	0.29	2.87E-213	9.18E-212
549	TG(48:3)[NL-16:1]	3.77	0.28	0.28	1.18E-149	1.31E-148
550	TG(50:0)[NL-18:0]	5.12	0.33	0.33	1.16E-202	2.46E-201
551	TG(50:1)[NL-14:0]	2.76	0.22	0.22	1.08E-130	9.45E-130
552	TG(50:1)[NL-18:1]	3.12	0.18	0.18	2.70E-252	3.11E-250
553	TG(50:2)[NL-18:1]	2.38	0.16	0.16	1.91E-181	2.74E-180
554	TG(50:2)[NL-18:2]	2.78	0.17	0.17	1.20E-226	5.76E-225
555	TG(50:3)[NL-14:1]	2.07	0.19	0.19	6.72E-106	4.07E-105
556	TG(50:3)[NL-16:1]	3.47	0.22	0.22	1.74E-212	5.00E-211
557	TG(50:4)[NL-14:0]	2.28	0.27	0.27	9.76E-63	3.60E-62
558	TG(51:0)[NL-16:0]	4.09	0.26	0.27	1.91E-200	3.79E-199
559	TG(51:2)[NL-15:0]	1.53	0.18	0.18	1.82E-65	6.88E-65

Supplementary Table 4: Association of BMI with plasma lipid species						
Lipid #	Linear regression (BMI) and lipids adjusting for age and sex					
	Lipid species	Percent difference per unit of BMI ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
560	TG(52:1)[NL-18:0]	4.94	0.27	0.27	2.38E-285	4.56E-283
561	TG(52:2)[NL-16:0]	1.47	0.11	0.11	1.05E-155	1.26E-154
562	TG(52:3)[NL-16:1]	1.05	0.15	0.15	2.14E-45	6.42E-45
563	TG(52:3)[NL-18:2]	1.34	0.12	0.12	3.22E-107	1.99E-106
564	TG(54:0)[NL-18:0]	3.45	0.28	0.28	1.48E-132	1.33E-131
565	TG(54:1)[NL-18:1]	4.73	0.28	0.28	3.35E-234	2.14E-232
566	TG(54:2)[NL-18:0]	3.28	0.19	0.19	7.01E-238	5.04E-236
567	TG(54:3)[NL-18:1]	0.58	0.13	0.13	1.81E-17	3.35E-17
568	TG(54:4)[NL-18:2]	0.34	0.15	0.15	7.30E-06	9.88E-06
569	TG(56:6)[NL-20:4]	0.74	0.13	0.13	4.89E-29	1.12E-28
570	TG(56:8)[NL-20:4]	1.85	0.21	0.21	1.66E-65	6.31E-65
571	TG(58:8)[NL-22:6]	1.03	0.25	0.25	1.70E-16	3.07E-16
572	TG(O-50:1)[NL-16:0]	1.35	0.16	0.16	1.21E-62	4.40E-62
573	TG(O-52:0)[NL-16:0]	4.12	0.27	0.27	3.86E-201	7.94E-200
574	TG(O-52:2)[NL-16:0]	1.27	0.14	0.14	2.31E-71	9.48E-71
575	Ubiquinone	0.91	0.12	0.12	8.55E-48	2.73E-47

^aLinear model was fit between BMI as predictor and each lipid species as an outcome adjusting for age, and sex. β -coefficients and 95% confidence intervals were converted to percentage difference (percentage difference = $(10^{\beta}\text{-coefficient} - 1) \times 100$); CL = confidence limit; CI = confidence interval

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
1	dhCer(d18:0/16:0)	1.1	0.3	0.3	2.55E-10	4.40E-10
2	dhCer(d18:0/18:0)	2.4	0.3	0.3	8.24E-51	3.54E-50
3	dhCer(d18:0/20:0)	2.1	0.3	0.3	2.56E-48	1.04E-47
4	dhCer(d18:0/22:0)	3.4	0.3	0.3	7.84E-122	1.13E-120
5	dhCer(d18:0/24:0)	2.0	0.3	0.3	1.18E-48	4.85E-48
6	dhCer(d18:0/24:1)	2.7	0.3	0.3	8.41E-79	5.76E-78
7	Cer(d16:1/16:0)	1.8	0.3	0.3	3.64E-29	1.04E-28
8	Cer(d16:1/18:0)	4.7	0.3	0.3	1.26E-158	4.81E-157
9	Cer(d16:1/20:0)	2.9	0.3	0.3	8.62E-77	5.57E-76
10	Cer(d16:1/22:0)	2.5	0.3	0.3	3.93E-46	1.54E-45
11	Cer(d16:1/24:0)	0.5	0.3	0.3	2.72E-03	3.47E-03
12	Cer(d16:1/24:1)	1.9	0.3	0.3	1.21E-31	3.58E-31
13	Cer(d17:1/16:0)	0.4	0.3	0.3	4.28E-03	5.37E-03
14	Cer(d17:1/18:0)	1.7	0.2	0.2	2.25E-50	9.50E-50
15	Cer(d17:1/20:0)	1.8	0.3	0.3	9.28E-28	2.52E-27
16	Cer(d17:1/22:0)	1.7	0.3	0.3	6.35E-26	1.67E-25
17	Cer(d17:1/24:0)	0.0	0.3	0.3	8.31E-01	8.41E-01
18	Cer(d17:1/24:1)	0.5	0.3	0.3	5.35E-04	7.07E-04
19	Cer(d18:1/14:0)	0.1	0.3	0.3	3.85E-01	4.12E-01
20	Cer(d18:1/16:0)	0.4	0.2	0.2	4.91E-06	7.28E-06

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
21	Cer(d18:1/18:0)	3.8	0.3	0.3	7.49E-159	3.08E-157
22	Cer(d18:1/20:0)	2.4	0.3	0.3	1.66E-77	1.08E-76
23	Cer(d18:1/22:0)	2.0	0.3	0.3	1.53E-56	7.39E-56
24	Cer(d18:1/24:0)	0.5	0.2	0.2	1.93E-05	2.75E-05
25	Cer(d18:1/24:1)	0.9	0.2	0.2	2.71E-13	5.23E-13
26	Cer(d18:1/26:0)	-0.1	0.2	0.2	2.78E-01	3.01E-01
27	Cer(d18:2/14:0)	1.4	0.4	0.4	3.52E-10	6.03E-10
28	Cer(d18:2/16:0)	0.9	0.2	0.2	8.22E-14	1.60E-13
29	Cer(d18:2/17:0)	0.0	0.5	0.5	9.24E-01	9.30E-01
30	Cer(d18:2/18:0)	3.7	0.3	0.3	1.66E-104	1.77E-103
31	Cer(d18:2/20:0)	1.5	0.3	0.3	9.36E-32	2.80E-31
32	Cer(d18:2/22:0)	1.7	0.3	0.3	1.52E-28	4.28E-28
33	Cer(d18:2/24:0)	-0.2	0.3	0.3	2.96E-01	3.19E-01
34	Cer(d18:2/24:1)	0.7	0.3	0.3	2.28E-07	3.57E-07
35	Cer(d18:2/26:0)	-1.1	0.3	0.3	2.72E-11	4.90E-11
36	Cer(d19:1/16:0)	1.2	0.4	0.4	3.63E-09	6.00E-09
37	Cer(d19:1/18:0)	4.6	0.4	0.4	2.91E-102	3.04E-101
38	Cer(d19:1/20:0)	3.2	0.4	0.4	2.43E-56	1.16E-55
39	Cer(d19:1/22:0)	3.3	0.4	0.4	2.43E-70	1.42E-69
40	Cer(d19:1/24:0)	1.6	0.3	0.3	6.50E-23	1.59E-22
41	Cer(d19:1/24:1)	1.7	0.4	0.4	6.62E-22	1.60E-21
42	Cer(d19:1/26:0)	0.3	0.3	0.3	5.50E-02	6.43E-02
43	Cer(d20:1/22:0)	3.0	0.3	0.3	4.27E-70	2.48E-69
44	Cer(d20:1/24:0)	1.8	0.3	0.3	2.63E-32	8.03E-32
45	Cer(d20:1/24:1)	2.2	0.3	0.3	1.37E-39	4.76E-39
46	Cer(d20:1/26:0)	0.1	0.2	0.2	2.54E-01	2.77E-01
47	HexCer(d16:1/18:0)	1.6	0.4	0.4	7.95E-17	1.67E-16
48	HexCer(d16:1/20:0)	0.5	0.3	0.3	6.18E-03	7.68E-03
49	HexCer(d16:1/22:0)	0.0	0.3	0.3	8.17E-01	8.29E-01
50	HexCer(d16:1/24:0)	-0.4	0.3	0.3	9.10E-03	1.11E-02
51	HexCer(d18:1/16:0)	-0.5	0.2	0.2	4.74E-05	6.60E-05
52	HexCer(d18:1/18:0)	-1.0	0.3	0.3	1.28E-14	2.53E-14
53	HexCer(d18:1/20:0)	-1.3	0.3	0.3	1.30E-23	3.25E-23
54	HexCer(d18:1/22:0)	-1.1	0.3	0.3	2.15E-18	4.69E-18
55	HexCer(d18:1/24:0)	-1.6	0.3	0.3	7.54E-35	2.48E-34
56	HexCer(d18:1/24:1)	-1.6	0.3	0.3	6.20E-33	1.93E-32
57	HexCer(d18:2/18:0)	-0.4	0.4	0.4	2.64E-02	3.16E-02
58	HexCer(d18:2/20:0)	-0.7	0.3	0.3	8.55E-05	1.18E-04
59	HexCer(d18:2/22:0)	-1.1	0.3	0.3	1.03E-16	2.16E-16
60	HexCer(d18:2/24:0)	-1.4	0.3	0.3	1.75E-27	4.71E-27
61	Hex2Cer(d16:1/16:0)	0.8	0.3	0.3	2.79E-08	4.48E-08
62	Hex2Cer(d16:1/24:1)	-0.3	0.3	0.4	5.89E-02	6.86E-02
63	Hex2Cer(d18:1/16:0)	-1.4	0.2	0.2	8.52E-35	2.78E-34

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
64	Hex2Cer(d18:1/18:0)	-3.4	0.3	0.3	6.97E-107	7.70E-106
65	Hex2Cer(d18:1/20:0)	-0.5	0.3	0.3	2.32E-03	2.97E-03
66	Hex2Cer(d18:1/22:0)	-1.0	0.2	0.2	5.00E-18	1.07E-17
67	Hex2Cer(d18:1/24:0)	-1.2	0.2	0.2	7.58E-25	1.96E-24
68	Hex2Cer(d18:1/24:1)	-1.7	0.2	0.2	7.98E-41	2.83E-40
69	Hex2Cer(d18:2/16:0)	0.1	0.2	0.2	2.44E-01	2.67E-01
70	Hex2Cer(d18:2/24:1)	-1.1	0.3	0.3	1.35E-15	2.75E-15
71	Hex3Cer(d18:1/16:0)	-1.6	0.2	0.2	1.98E-68	1.11E-67
72	Hex3Cer(d18:1/18:0)	-1.7	0.3	0.3	7.16E-34	2.29E-33
73	Hex3Cer(d18:1/20:0)	-2.1	0.3	0.3	4.20E-31	1.23E-30
74	Hex3Cer(d18:1/22:0)	-2.4	0.2	0.2	8.35E-75	5.11E-74
75	Hex3Cer(d18:1/24:0)	-2.6	0.3	0.3	8.05E-84	6.26E-83
76	Hex3Cer(d18:1/24:1)	-2.3	0.2	0.2	4.75E-83	3.60E-82
77	GM3(d18:1/16:0)	-1.4	0.2	0.2	3.50E-61	1.78E-60
78	GM3(d18:1/18:0)	-1.5	0.2	0.2	3.33E-38	1.13E-37
79	GM3(d18:1/20:0)	-0.5	0.3	0.3	3.39E-04	4.52E-04
80	GM3(d18:1/22:0)	-0.5	0.3	0.3	3.35E-04	4.47E-04
81	GM3(d18:1/24:0)	-2.7	0.2	0.2	9.74E-100	9.66E-99
82	GM3(d18:1/24:1)	-2.4	0.2	0.2	1.56E-75	9.74E-75
83	GM3(d18:2/24:1)	-1.5	0.4	0.4	8.06E-12	1.47E-11
84	GM1(d18:1/16:0)	-1.0	0.2	0.2	2.30E-19	5.24E-19
85	Sulfatide(d18:1/16:0(OH))	-2.0	0.2	0.2	7.63E-57	3.72E-56
86	Sulfatide(d18:1/16:0)	-1.9	0.3	0.3	8.88E-48	3.54E-47
87	Sulfatide(d18:1/24:0(OH))	-1.3	0.4	0.4	9.60E-11	1.69E-10
88	Sulfatide(d18:1/24:0)	-1.8	0.3	0.3	3.20E-33	9.99E-33
89	Sulfatide(d18:1/24:1(OH))	-1.5	0.3	0.3	1.69E-22	4.10E-22
90	Sulfatide(d18:1/24:1)	-3.5	0.3	0.3	3.33E-107	3.75E-106
91	SM(d17:1/14:0)	0.1	0.3	0.3	2.95E-01	3.19E-01
92	SM(d18:0/14:0)	0.8	0.2	0.2	2.74E-11	4.91E-11
93	SM(d18:1/14:0)/SM(d16:1/16:0)	0.6	0.2	0.2	7.40E-10	1.25E-09
94	SM(d18:2/14:0)	2.1	0.2	0.2	5.50E-89	4.79E-88
95	SM(d17:1/16:0)	-0.1	0.2	0.2	1.84E-01	2.04E-01
96	SM(d18:0/16:0)	-0.4	0.2	0.2	4.00E-05	5.60E-05
97	SM(d18:1/16:0)	-0.6	0.1	0.1	2.42E-15	4.91E-15
98	SM(d18:2/16:0)	1.1	0.2	0.2	1.52E-43	5.77E-43
99	SM(34:3)	1.5	0.2	0.2	2.76E-53	1.27E-52
100	SM(d16:1/19:0)	-0.2	0.2	0.2	1.01E-01	1.15E-01
101	SM(d18:1/17:0)/SM(d17:1/18:0)	0.3	0.2	0.2	1.65E-02	1.98E-02
102	SM(d18:2/17:0)	0.8	0.2	0.2	5.57E-13	1.06E-12
103	SM(35:2)(b)	-0.3	0.2	0.2	1.82E-03	2.34E-03
104	SM(d18:1/18:0)/SM(d16:1/20:0)	1.5	0.2	0.2	2.34E-52	1.04E-51
105	SM(d18:2/18:0)	1.8	0.2	0.2	1.36E-78	9.19E-78
106	SM(d18:2/18:1)	1.3	0.2	0.2	3.72E-28	1.02E-27

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
107	SM(37:2)	-0.1	0.2	0.2	6.08E-01	6.27E-01
108	SM(d18:1/20:0)/SM(d16:1/22:0)	0.7	0.2	0.2	8.84E-15	1.77E-14
109	SM(d18:2/20:0)	0.5	0.2	0.2	8.69E-08	1.38E-07
110	SM(d16:1/23:0)/SM(d17:1/22:0)	0.6	0.2	0.2	1.51E-07	2.38E-07
111	SM(d18:0/22:0)	4.4	0.3	0.3	5.09E-198	9.76E-196
112	SM(d18:1/22:0)/SM(d16:1/24:0)	1.0	0.2	0.2	2.27E-24	5.73E-24
113	SM(d16:1/24:1)	0.5	0.2	0.2	1.74E-05	2.49E-05
114	SM(d18:2/22:0)	0.4	0.2	0.2	1.96E-05	2.79E-05
115	SM(41:0)	2.4	0.2	0.2	1.15E-85	9.15E-85
116	SM(41:1)(a)	2.3	0.3	0.3	8.77E-51	3.74E-50
117	SM(d18:1/23:0)/SM(d17:1/24:0)	0.7	0.2	0.2	1.90E-12	3.57E-12
118	SM(d17:1/24:1)	-0.1	0.2	0.2	2.99E-01	3.22E-01
119	SM(d18:2/23:0)	-0.1	0.2	0.2	1.43E-01	1.61E-01
120	SM(d18:1/24:0)	0.4	0.2	0.2	3.60E-04	4.79E-04
121	SM(d18:1/24:1)	-0.1	0.2	0.2	1.68E-01	1.88E-01
122	SM(d18:2/24:0)	-0.7	0.2	0.2	4.75E-13	9.13E-13
123	SM(43:1)	0.5	0.2	0.2	1.19E-04	1.62E-04
124	SM(d19:1/24:1)	0.8	0.3	0.3	6.12E-08	9.75E-08
125	SM(43:2)(b)	0.1	0.2	0.2	5.18E-01	5.42E-01
126	SM(43:2)(c)	-1.0	0.2	0.2	3.34E-18	7.22E-18
127	PC(28:0)	0.2	0.5	0.5	4.22E-01	4.47E-01
128	PC(14:0_16:0)	0.1	0.3	0.3	7.04E-01	7.21E-01
129	PC(31:0)(a)	1.1	0.4	0.4	1.58E-06	2.40E-06
130	PC(31:0)(b)	-0.6	0.3	0.3	8.14E-07	1.26E-06
131	PC(16:0_16:0)	-0.4	0.2	0.2	1.35E-04	1.83E-04
132	PC(32:1)	2.6	0.4	0.4	5.26E-40	1.83E-39
133	PC(32:2)	0.6	0.3	0.3	3.17E-04	4.25E-04
134	PC(33:0)(a)	0.3	0.3	0.3	3.09E-02	3.66E-02
135	PC(33:0)(b)	-0.7	0.2	0.2	6.97E-12	1.28E-11
136	PC(33:1)	0.4	0.3	0.3	1.49E-03	1.93E-03
137	PC(33:2)	-1.0	0.3	0.3	2.16E-14	4.26E-14
138	PC(16:0_18:0)	-0.2	0.2	0.2	9.20E-02	1.05E-01
139	PC(16:0_18:1)	0.4	0.2	0.2	2.01E-04	2.72E-04
140	PC(16:0_18:2)	-0.4	0.1	0.1	4.34E-09	7.14E-09
141	PC(16:1_18:2)	-0.3	0.3	0.3	2.50E-02	2.99E-02
142	PC(16:0_18:3)(a)	-0.4	0.3	0.3	3.01E-03	3.81E-03
143	PC(16:0_18:3)(b)	1.6	0.3	0.3	1.30E-22	3.18E-22
144	PC(14:0_20:4)	1.8	0.4	0.4	8.59E-22	2.07E-21
145	PC(34:5)	1.7	0.5	0.5	1.81E-11	3.29E-11
146	PC(15-MHDA_18:1)	-0.9	0.3	0.3	3.21E-10	5.53E-10
147	PC(17:0_18:1)	-0.5	0.2	0.2	1.26E-05	1.84E-05
148	PC(15-MHDA_18:2)	-1.6	0.3	0.3	2.91E-32	8.84E-32
149	PC(17:0_18:2)	-1.6	0.2	0.2	1.98E-49	8.21E-49

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
150	PC(17:1_18:2)	-1.4	0.2	0.2	5.47E-34	1.76E-33
151	PC(15:0_20:3)	0.5	0.2	0.2	1.65E-05	2.36E-05
152	PC(15:0_20:4)	0.3	0.3	0.3	1.45E-02	1.75E-02
153	PC(35:5)	0.3	0.4	0.4	1.38E-01	1.56E-01
154	PC(18:0_18:1)	1.2	0.3	0.3	5.67E-21	1.33E-20
155	PC(18:1_18:1)	-1.1	0.2	0.2	7.94E-24	1.98E-23
156	PC(18:0_18:2)	0.0	0.2	0.2	8.08E-01	8.21E-01
157	PC(18:1_18:2)	-1.9	0.2	0.2	1.51E-82	1.12E-81
158	PC(16:0_20:3)(a)	1.7	0.2	0.2	1.32E-59	6.61E-59
159	PC(16:0_20:3)(b)	1.9	0.3	0.3	3.57E-30	1.04E-29
160	PC(18:2_18:2)	-2.2	0.2	0.2	1.48E-68	8.37E-68
161	PC(16:0_20:4)	0.8	0.2	0.2	1.09E-18	2.43E-18
162	PC(16:1_20:4)	1.1	0.3	0.3	5.31E-12	9.83E-12
163	PC(16:0_20:5)	0.9	0.4	0.4	5.29E-06	7.83E-06
164	PC(36:6)(a)	1.0	0.4	0.4	7.07E-06	1.04E-05
165	PC(14:0_22:6)	0.2	0.4	0.4	3.53E-01	3.78E-01
166	PC(15-MHDA_20:4)	-0.2	0.3	0.3	1.20E-01	1.37E-01
167	PC(17:0_20:4)	-0.2	0.2	0.2	1.25E-01	1.42E-01
168	PC(15:0_22:6)	-1.5	0.3	0.3	4.54E-20	1.05E-19
169	PC(38:2)	0.9	0.2	0.2	5.34E-21	1.26E-20
170	PC(18:0_20:3)	4.1	0.2	0.2	1.80E-232	1.03E-229
171	PC(18:1_20:3)	1.0	0.2	0.2	4.76E-18	1.03E-17
172	PC(38:4)(b)	2.0	0.2	0.2	8.80E-64	4.68E-63
173	PC(18:0_20:4)	1.6	0.2	0.2	1.88E-49	7.84E-49
174	PC(38:5)(a)	-0.1	0.2	0.2	2.44E-01	2.67E-01
175	PC(38:5)(b)	1.0	0.3	0.3	1.12E-14	2.24E-14
176	PC(38:6)(a)	-0.7	0.2	0.2	8.69E-09	1.42E-08
177	PC(16:0_22:6)	-0.8	0.3	0.3	1.68E-08	2.71E-08
178	PC(18:2_20:5)	-1.2	0.4	0.4	4.98E-10	8.50E-10
179	PC(16:1_22:6)	-1.3	0.3	0.3	1.29E-16	2.69E-16
180	PC(38:7)(c)	-0.6	0.3	0.3	8.74E-07	1.34E-06
181	PC(39:5)(a)	-2.0	0.3	0.3	1.26E-37	4.23E-37
182	PC(39:5)(b)	-1.0	0.2	0.2	1.43E-16	2.97E-16
183	PC(15-MHDA_22:6)	-2.3	0.3	0.3	1.11E-46	4.40E-46
184	PC(17:0_22:6)	-1.9	0.3	0.3	1.92E-33	6.09E-33
185	PC(18:0_22:4)	3.0	0.3	0.3	1.39E-78	9.32E-78
186	PC(20:0_20:4)	-0.3	0.3	0.3	2.72E-02	3.25E-02
187	PC(18:0_22:5)(n3)	1.5	0.3	0.3	1.01E-32	3.10E-32
188	PC(18:0_22:5)(n6)	2.3	0.3	0.3	9.07E-50	3.81E-49
189	PC(18:0_22:6)	1.2	0.3	0.3	6.86E-17	1.45E-16
190	PC(40:7)(a)	0.3	0.3	0.3	1.63E-02	1.97E-02
191	PC(18:1_22:6)(a)	-2.8	0.2	0.2	2.90E-105	3.15E-104
192	PC(18:1_22:6)(b)	-0.8	0.3	0.3	9.61E-08	1.52E-07

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
193	PC(40:8)	-2.0	0.2	0.2	8.53E-63	4.46E-62
194	PC(O-16:0/16:0)	-1.0	0.2	0.2	1.52E-28	4.28E-28
195	PC(O-32:1)	-1.2	0.2	0.2	6.59E-33	2.04E-32
196	PC(O-32:2)	-1.6	0.4	0.4	2.66E-14	5.23E-14
197	PC(O-34:1)	-1.7	0.2	0.2	1.69E-93	1.52E-92
198	PC(O-34:2)	-2.2	0.3	0.3	3.47E-62	1.80E-61
199	PC(O-34:4)	0.2	0.4	0.4	4.03E-01	4.29E-01
200	PC(O-36:0)	-0.9	0.2	0.2	2.61E-19	5.91E-19
201	PC(O-18:0/18:1)	-1.6	0.2	0.2	2.12E-54	9.91E-54
202	PC(O-18:1/18:1)	-2.1	0.2	0.2	9.92E-89	8.52E-88
203	PC(O-18:0/18:2)	-2.6	0.2	0.2	1.23E-94	1.12E-93
204	PC(O-18:1/18:2)	-2.2	0.2	0.2	2.17E-79	1.54E-78
205	PC(O-16:0/20:3)	0.0	0.2	0.2	7.97E-01	8.11E-01
206	PC(O-16:0/20:4)	0.0	0.2	0.2	6.27E-01	6.45E-01
207	PC(O-36:5)	-0.5	0.4	0.4	9.77E-03	1.19E-02
208	PC(O-18:0/20:4)	-0.4	0.2	0.2	1.81E-05	2.58E-05
209	PC(O-38:5)	-0.6	0.2	0.2	1.85E-11	3.35E-11
210	PC(O-16:0/22:6)	-0.6	0.3	0.3	9.73E-06	1.42E-05
211	PC(O-40:5)	-1.0	0.2	0.2	5.33E-27	1.43E-26
212	PC(O-18:0/22:6)	-1.4	0.2	0.2	3.78E-35	1.26E-34
213	PC(O-40:7)(a)	-1.2	0.3	0.3	3.00E-19	6.78E-19
214	PC(O-40:7)(b)	-0.6	0.2	0.2	8.51E-09	1.39E-08
215	PC(P-16:0/14:0)	-1.2	0.2	0.2	1.61E-24	4.10E-24
216	PC(P-16:0/16:0)	-1.3	0.2	0.2	4.67E-44	1.78E-43
217	PC(P-16:0/16:1)	-1.4	0.2	0.2	9.32E-32	2.80E-31
218	PC(P-16:0/18:0)	-1.7	0.2	0.2	5.89E-86	4.84E-85
219	PC(P-16:0/18:1)	-2.6	0.2	0.2	2.10E-147	4.84E-146
220	PC(P-16:0/18:2)	-2.6	0.2	0.2	7.56E-99	7.24E-98
221	PC(P-16:0/18:3)	-2.4	0.3	0.3	8.20E-52	3.60E-51
222	PC(P-15:0/20:4)(a)	1.1	0.5	0.5	3.61E-05	5.08E-05
223	PC(P-15:0/20:4)(b)	0.1	0.3	0.3	3.97E-01	4.23E-01
224	PC(P-18:1/18:1)	-2.1	0.2	0.2	9.02E-74	5.40E-73
225	PC(P-18:0/18:2)	-3.3	0.3	0.3	1.54E-128	2.39E-127
226	PC(P-36:3)	-0.3	0.2	0.2	3.03E-03	3.82E-03
227	PC(P-16:0/20:4)	-0.1	0.2	0.2	5.83E-01	6.02E-01
228	PC(P-16:0/20:5)	-0.3	0.4	0.4	8.58E-02	9.85E-02
229	PC(P-17:0/20:4)(a)	-0.6	0.3	0.3	8.55E-06	1.25E-05
230	PC(P-17:0/20:4)(b)	-0.5	0.3	0.3	9.70E-05	1.33E-04
231	PC(P-18:0/20:4)	-0.6	0.3	0.3	1.59E-06	2.41E-06
232	PC(P-38:5)(a)	-0.2	0.2	0.2	5.46E-02	6.41E-02
233	PC(P-38:5)(b)	-0.9	0.3	0.3	2.25E-10	3.89E-10
234	PC(P-16:0/22:6)	-1.2	0.3	0.3	9.62E-18	2.05E-17
235	PC(P-20:0/20:4)	-1.3	0.2	0.2	2.63E-33	8.28E-33

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
236	PC(P-18:0/22:5)	-1.4	0.2	0.2	2.63E-45	1.01E-44
237	PC(P-18:0/22:6)	-2.4	0.3	0.3	5.88E-63	3.10E-62
238	PC(P-18:1/22:6)	-1.7	0.2	0.2	2.74E-43	1.02E-42
239	LPC(14:0)[sn2]	1.1	0.3	0.3	4.25E-12	7.90E-12
240	LPC(14:0)[sn1]	1.2	0.3	0.3	5.33E-13	1.02E-12
241	LPC(15:0)[sn2]	-0.6	0.3	0.3	3.47E-05	4.89E-05
242	LPC(15:0)[sn1]	-0.6	0.3	0.3	4.56E-06	6.78E-06
243	LPC(16:0)[sn2]	-0.1	0.2	0.2	5.44E-01	5.66E-01
244	LPC(16:0)[sn1]	0.0	0.2	0.2	6.73E-01	6.91E-01
245	LPC(16:1)[sn2]	1.0	0.3	0.3	1.82E-10	3.16E-10
246	LPC(16:1)[sn1]	0.6	0.3	0.3	1.94E-06	2.94E-06
247	LPC(15-MHDA)[sn2]	-1.7	0.3	0.3	6.24E-28	1.71E-27
248	LPC(15-MHDA)[sn1]/LPC(17:0)[sn2]	-1.6	0.3	0.3	3.61E-28	9.98E-28
249	LPC(15-MHDA)[sn1][104_sn1]	-1.6	0.3	0.3	2.97E-24	7.45E-24
250	LPC(17:0)[sn1]	-1.4	0.2	0.2	5.77E-27	1.54E-26
251	LPC(17:1)[sn2](a)	-0.9	0.3	0.3	7.94E-11	1.40E-10
252	LPC(17:1)[sn1](a)/LPC(17:1)[sn2](b)	-0.9	0.3	0.3	1.05E-11	1.91E-11
253	LPC(17:1)(a)[sn1][104_sn1]	-0.8	0.3	0.3	6.59E-10	1.12E-09
254	LPC(17:1)[sn1](b)	-1.3	0.3	0.3	1.22E-19	2.79E-19
255	LPC(18:0)[sn2]	0.2	0.2	0.2	1.65E-01	1.85E-01
256	LPC(18:0)[sn1]	0.2	0.2	0.2	8.39E-02	9.65E-02
257	LPC(18:1)[sn2]	-1.9	0.2	0.2	4.75E-72	2.82E-71
258	LPC(18:1)[sn1]	-2.0	0.2	0.2	5.94E-65	3.25E-64
259	LPC(18:2)[sn2]	-3.1	0.2	0.2	4.47E-156	1.61E-154
260	LPC(18:2)[sn1]	-3.5	0.2	0.2	2.41E-168	1.38E-166
261	LPC(18:3)[sn2](a)	-2.8	0.4	0.4	3.72E-54	1.73E-53
262	LPC(18:3)[sn1](a)/LPC(18:3)[sn2](b)	-2.3	0.3	0.3	2.09E-39	7.21E-39
263	LPC(18:3)[sn1](b)	-1.1	0.3	0.3	9.94E-10	1.67E-09
264	LPC(19:0)[sn2](a)	-1.5	0.3	0.3	5.94E-25	1.54E-24
265	LPC(19:0)[sn1](a)/LPC(19:0)[sn2](b)	-2.0	0.2	0.2	5.68E-52	2.51E-51
266	LPC(19:0)(a)[sn1][104_sn1]	-1.2	0.3	0.3	1.81E-18	3.98E-18
267	LPC(19:0)[sn1](b)	-2.4	0.2	0.2	1.47E-80	1.05E-79
268	LPC(20:0)[sn2]	-2.7	0.2	0.2	1.52E-115	1.89E-114
269	LPC(20:0)[sn1]	-2.8	0.2	0.2	5.56E-126	8.20E-125
270	LPC(20:1)[sn2]	-2.7	0.2	0.2	5.11E-101	5.15E-100
271	LPC(20:1)[sn1]	-2.5	0.2	0.2	1.48E-117	1.93E-116
272	LPC(20:2)[sn2]	-1.6	0.2	0.2	2.20E-43	8.28E-43
273	LPC(20:2)[sn1]	-1.9	0.2	0.2	1.30E-64	7.05E-64
274	LPC(20:3)[sn2]	1.1	0.2	0.2	1.95E-20	4.51E-20
275	LPC(20:3)[sn1]	0.6	0.3	0.3	2.36E-06	3.56E-06
276	LPC(20:4)[sn2]	-0.2	0.2	0.2	1.80E-01	2.00E-01
277	LPC(20:4)[sn1]	-0.6	0.3	0.3	1.38E-05	1.99E-05
278	LPC(20:5)[sn2]	-0.2	0.4	0.4	4.40E-01	4.65E-01

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
279	LPC(20:5)[sn1]	-0.4	0.4	0.4	6.11E-02	7.09E-02
280	LPC(22:0)[sn2]	-2.8	0.2	0.2	4.57E-127	6.91E-126
281	LPC(22:0)[sn1]	-3.0	0.2	0.2	1.20E-144	2.37E-143
282	LPC(22:1)[sn2]	-3.0	0.3	0.3	3.87E-92	3.42E-91
283	LPC(22:1)[sn1]	-3.2	0.3	0.3	1.68E-108	1.94E-107
284	LPC(22:4)[sn2]	0.0	0.3	0.3	7.58E-01	7.76E-01
285	LPC(22:4)[sn1]	-0.4	0.3	0.3	3.02E-03	3.81E-03
286	LPC(22:5)[sn2](n3)	-1.4	0.3	0.3	1.29E-21	3.10E-21
287	LPC(22:5)[sn1](n3)/LPC(22:5)[sn2](n6)	-1.5	0.3	0.3	2.04E-24	5.17E-24
288	LPC(22:5)[sn1](n6)	-0.9	0.3	0.3	9.93E-09	1.62E-08
289	LPC(22:6)[sn2]	-1.6	0.3	0.3	2.38E-28	6.65E-28
290	LPC(22:6)[sn1]	-2.0	0.3	0.3	4.16E-40	1.46E-39
291	LPC(24:0)[sn2]	-2.6	0.2	0.2	1.92E-145	3.94E-144
292	LPC(24:0)[sn1]	-2.7	0.2	0.2	2.22E-152	6.07E-151
293	LPC(26:0)[sn2]	-3.3	0.2	0.2	2.47E-155	8.34E-154
294	LPC(26:0)[sn1]	-3.0	0.2	0.2	4.23E-191	4.87E-189
295	LPC(O-16:0)	-0.6	0.2	0.2	6.65E-07	1.03E-06
296	LPC(O-18:0)	-1.4	0.2	0.2	1.16E-28	3.30E-28
297	LPC(O-18:1)	-0.9	0.2	0.2	8.18E-13	1.55E-12
298	LPC(O-20:0)	-2.4	0.2	0.2	6.61E-97	6.23E-96
299	LPC(O-20:1)	-1.8	0.3	0.3	9.92E-42	3.56E-41
300	LPC(O-22:0)	-2.1	0.2	0.2	3.63E-102	3.73E-101
301	LPC(O-22:1)	-2.9	0.2	0.2	9.28E-119	1.24E-117
302	LPC(O-24:0)	-1.7	0.2	0.2	1.04E-52	4.72E-52
303	LPC(O-24:1)	-2.1	0.2	0.2	2.27E-76	1.44E-75
304	LPC(O-24:2)	-3.5	0.3	0.3	5.26E-130	8.40E-129
305	LPC(P-16:0)	-1.2	0.2	0.2	3.58E-28	9.95E-28
306	LPC(P-18:0)	-1.9	0.2	0.2	5.87E-74	3.55E-73
307	LPC(P-18:1)	-1.2	0.3	0.3	2.05E-19	4.68E-19
308	LPC(P-20:0)	-2.8	0.2	0.2	2.47E-147	5.47E-146
309	PE(16:0_16:0)	0.8	0.4	0.4	1.53E-05	2.21E-05
310	PE(16:0_16:1)	5.0	0.7	0.7	1.73E-45	6.70E-45
311	PE(16:0_18:1)	2.5	0.4	0.4	1.20E-29	3.47E-29
312	PE(16:0_18:2)	1.0	0.4	0.4	1.09E-05	1.59E-05
313	PE(16:1_18:2)	1.0	0.5	0.5	1.08E-04	1.47E-04
314	PE(16:0_18:3)(a)	0.2	0.6	0.6	5.05E-01	5.29E-01
315	PE(16:0_18:3)(b)	2.3	0.5	0.5	1.00E-19	2.31E-19
316	PE(15-MHDA_18:1)	1.0	0.4	0.4	1.00E-05	1.47E-05
317	PE(17:0_18:1)	2.2	0.4	0.4	6.24E-27	1.66E-26
318	PE(15-MHDA_18:2)	0.0	0.4	0.4	8.34E-01	8.43E-01
319	PE(17:0_18:2)	0.6	0.4	0.4	2.98E-03	3.78E-03
320	PE(36:0)	0.2	0.2	0.2	8.56E-03	1.05E-02
321	PE(18:0_18:1)	2.9	0.3	0.3	1.87E-60	9.41E-60

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
322	PE(18:1_18:1)	1.0	0.4	0.4	1.27E-06	1.94E-06
323	PE(18:0_18:2)	2.7	0.4	0.4	4.49E-36	1.50E-35
324	PE(18:1_18:2)	-0.8	0.4	0.4	1.08E-04	1.47E-04
325	PE(16:0_20:3)	1.0	0.4	0.4	1.42E-06	2.16E-06
326	PE(16:0_20:4)	0.7	0.4	0.4	8.01E-04	1.05E-03
327	PE(16:1_20:4)	0.2	0.5	0.5	5.45E-01	5.66E-01
328	PE(16:0_20:5)	0.5	0.5	0.5	6.72E-02	7.79E-02
329	PE(15-MHDA_20:4)	-0.5	0.4	0.4	2.82E-02	3.36E-02
330	PE(17:0_20:4)	0.5	0.4	0.4	6.27E-03	7.77E-03
331	PE(18:0_20:3)(a)	4.2	0.4	0.4	6.77E-83	5.06E-82
332	PE(18:0_20:3)(b)	1.9	0.4	0.4	2.35E-23	5.79E-23
333	PE(18:0_20:4)	2.2	0.4	0.4	1.81E-31	5.33E-31
334	PE(38:5)(a)	-0.5	0.4	0.4	1.17E-02	1.42E-02
335	PE(38:5)(b)	1.3	0.4	0.4	1.38E-09	2.30E-09
336	PE(16:0_22:6)	0.0	0.4	0.4	9.68E-01	9.73E-01
337	PE(15-MHDA_22:6)	-1.6	0.5	0.5	4.20E-12	7.85E-12
338	PE(17:0_22:6)	0.0	0.4	0.4	9.84E-01	9.84E-01
339	PE(18:0_22:4)	4.3	0.5	0.5	2.50E-64	1.35E-63
340	PE(18:0_22:5)(n3)	2.9	0.4	0.4	8.76E-41	3.09E-40
341	PE(18:0_22:5)(n6)	4.1	0.5	0.5	8.26E-56	3.92E-55
342	PE(18:0_22:6)	3.2	0.5	0.5	1.07E-41	3.83E-41
343	PE(18:1_22:6)(a)	-1.6	0.5	0.5	7.46E-12	1.37E-11
344	PE(18:1_22:6)(b)	0.5	0.5	0.5	4.98E-02	5.85E-02
345	PE(O-34:1)	-1.1	0.3	0.3	7.62E-16	1.57E-15
346	PE(O-16:0/18:2)	-2.3	0.4	0.4	3.36E-34	1.09E-33
347	PE(O-18:1/18:2)	-2.0	0.3	0.3	6.10E-29	1.74E-28
348	PE(O-16:0/20:3)	0.0	0.4	0.4	9.82E-01	9.84E-01
349	PE(O-16:0/20:4)	-0.7	0.4	0.4	3.67E-04	4.86E-04
350	PE(O-36:5)	-1.3	0.5	0.5	3.05E-07	4.75E-07
351	PE(O-16:0/22:4)	0.3	0.3	0.3	1.08E-01	1.23E-01
352	PE(O-18:0/20:4)	-1.2	0.4	0.4	3.89E-10	6.66E-10
353	PE(O-38:5)(a)	-0.4	0.3	0.3	1.48E-02	1.79E-02
354	PE(O-38:5)(b)	-0.7	0.3	0.3	2.54E-05	3.59E-05
355	PE(O-16:0/22:6)	-0.8	0.3	0.3	1.42E-07	2.24E-07
356	PE(O-18:0/22:6)	-1.5	0.3	0.3	1.30E-25	3.39E-25
357	PE(O-18:1/22:6)	-1.7	0.3	0.3	8.56E-25	2.20E-24
358	PE(P-15:0/20:4)	1.7	0.4	0.4	9.88E-19	2.20E-18
359	PE(P-15:0/22:6)(a)	-0.2	0.4	0.4	1.88E-01	2.08E-01
360	PE(P-15:0/22:6)(b)	0.3	0.3	0.3	6.76E-02	7.82E-02
361	PE(P-16:0/18:1)	-0.1	0.3	0.3	4.21E-01	4.47E-01
362	PE(P-16:0/18:2)	-0.5	0.3	0.3	3.21E-03	4.03E-03
363	PE(P-16:0/18:3)	-0.5	0.4	0.4	6.83E-03	8.43E-03
364	PE(P-16:0/20:3)(a)	2.1	0.3	0.3	2.54E-33	8.02E-33

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
365	PE(P-16:0/20:3)(b)	1.5	0.4	0.4	1.75E-15	3.58E-15
366	PE(P-16:0/20:4)	1.3	0.3	0.3	5.11E-15	1.03E-14
367	PE(P-16:0/20:5)	0.6	0.4	0.4	4.55E-03	5.69E-03
368	PE(P-16:0/22:4)	0.5	0.2	0.2	2.59E-06	3.90E-06
369	PE(P-16:0/22:5)(n3)	0.6	0.3	0.3	1.43E-05	2.06E-05
370	PE(P-16:0/22:5)(n6)	-0.1	0.3	0.3	2.95E-01	3.19E-01
371	PE(P-16:0/22:6)	0.2	0.3	0.3	2.41E-01	2.65E-01
372	PE(P-17:0/20:4)(a)	0.9	0.4	0.4	3.95E-06	5.91E-06
373	PE(P-17:0/20:4)(b)	1.0	0.4	0.4	2.68E-08	4.31E-08
374	PE(P-17:0/22:6)(a)	-0.6	0.3	0.3	3.44E-04	4.58E-04
375	PE(P-17:0/22:6)(b)	-0.7	0.3	0.3	3.38E-05	4.78E-05
376	PE(P-18:0/18:1)	-0.5	0.3	0.3	8.24E-04	1.07E-03
377	PE(P-18:0/18:2)	-1.4	0.3	0.3	1.40E-18	3.08E-18
378	PE(P-18:0/18:3)	-1.3	0.3	0.3	5.14E-18	1.10E-17
379	PE(P-18:0/20:3)(a)	1.0	0.3	0.3	2.49E-09	4.13E-09
380	PE(P-18:0/20:3)(b)	0.1	0.3	0.3	4.90E-01	5.14E-01
381	PE(P-18:0/20:4)	0.2	0.3	0.3	3.51E-01	3.76E-01
382	PE(P-18:0/20:5)	-0.7	0.4	0.4	2.93E-03	3.73E-03
383	PE(P-18:0/22:4)	0.1	0.2	0.2	5.32E-01	5.55E-01
384	PE(P-18:0/22:5)(n3)	-0.2	0.3	0.3	2.28E-01	2.51E-01
385	PE(P-18:0/22:5)(n6)	-1.1	0.3	0.3	5.09E-11	9.05E-11
386	PE(P-18:0/22:6)	-1.2	0.3	0.3	6.91E-16	1.43E-15
387	PE(P-18:1/18:1)	-0.8	0.3	0.3	7.95E-10	1.34E-09
388	PE(P-18:1/18:1)(a)	-0.8	0.3	0.3	4.65E-08	7.42E-08
389	PE(P-18:1/18:1)(b)	-0.6	0.4	0.4	6.62E-04	8.69E-04
390	PE(P-18:1/18:2)(a)	-1.4	0.3	0.3	1.12E-17	2.38E-17
391	PE(P-18:1/18:2)(b)	-0.8	0.4	0.4	3.96E-06	5.91E-06
392	PE(P-18:1/18:3)	-1.2	0.3	0.3	1.74E-13	3.38E-13
393	PE(P-18:1/20:3)(a)	1.5	0.3	0.3	7.85E-19	1.76E-18
394	PE(P-18:1/20:3)(b)	0.8	0.3	0.3	8.48E-07	1.31E-06
395	PE(P-18:1/20:4)(a)	0.4	0.3	0.3	8.12E-03	9.96E-03
396	PE(P-18:1/20:4)(b)	0.8	0.3	0.3	1.55E-05	2.23E-05
397	PE(P-18:1/20:5)(a)	-0.4	0.4	0.4	4.46E-02	5.25E-02
398	PE(P-18:1/20:5)(b)	0.2	0.5	0.5	4.67E-01	4.92E-01
399	PE(P-18:1/22:4)	-0.2	0.2	0.2	1.73E-01	1.94E-01
400	PE(P-18:1/22:5)(a)	-0.2	0.2	0.2	4.42E-02	5.22E-02
401	PE(P-18:1/22:5)(b)	-0.5	0.3	0.3	2.82E-04	3.79E-04
402	PE(P-18:1/22:6)(a)	-1.1	0.3	0.3	4.35E-12	8.07E-12
403	PE(P-18:1/22:6)(b)	-0.4	0.3	0.3	7.13E-03	8.77E-03
404	PE(P-19:0/20:4)(a)	-0.7	0.4	0.4	6.53E-04	8.59E-04
405	PE(P-19:0/20:4)(b)	-0.7	0.3	0.3	6.55E-05	9.07E-05
406	PE(P-20:0/18:1)	-1.0	0.3	0.3	4.80E-15	9.72E-15
407	PE(P-20:0/18:2)	-2.4	0.3	0.3	1.04E-66	5.77E-66

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
408	PE(P-20:0/20:4)	-1.2	0.3	0.3	1.10E-16	2.31E-16
409	PE(P-20:0/22:6)	-2.7	0.3	0.3	3.78E-88	3.19E-87
410	PE(P-20:1/20:4)	-0.9	0.4	0.4	5.58E-05	7.75E-05
411	PE(P-20:1/22:6)	-2.3	0.4	0.4	9.49E-32	2.83E-31
412	LPE(16:0)[sn2]	-1.5	0.3	0.3	3.49E-25	9.08E-25
413	LPE(16:0)[sn1]	-1.5	0.3	0.3	1.32E-26	3.51E-26
414	LPE(17:0)[sn2]	-1.0	0.2	0.2	1.31E-18	2.90E-18
415	LPE(17:0)[sn1]	-0.7	0.3	0.3	1.23E-06	1.89E-06
416	LPE(18:0)[sn2]	-0.1	0.3	0.3	6.14E-01	6.32E-01
417	LPE(18:0)[sn1]	-0.1	0.2	0.2	5.69E-01	5.89E-01
418	LPE(18:1)[sn2]	-1.5	0.3	0.3	5.47E-21	1.29E-20
419	LPE(18:1)[sn1]	-1.4	0.3	0.3	1.90E-21	4.53E-21
420	LPE(18:2)[sn2]	-2.2	0.3	0.3	1.52E-46	5.98E-46
421	LPE(18:2)[sn1]	-2.1	0.3	0.3	1.52E-44	5.83E-44
422	LPE(20:4)[sn2]	-0.7	0.2	0.2	1.28E-09	2.13E-09
423	LPE(20:4)[sn1]	-0.9	0.2	0.2	3.42E-14	6.70E-14
424	LPE(22:6)[sn2]	-1.3	0.3	0.3	5.13E-21	1.22E-20
425	LPE(22:6)[sn1]	-1.5	0.3	0.3	8.47E-28	2.31E-27
426	LPE(P-16:0)	0.1	0.2	0.2	3.14E-01	3.38E-01
427	LPE(P-18:0)	-0.9	0.3	0.3	1.05E-10	1.84E-10
428	LPE(P-18:1)	0.1	0.3	0.3	4.58E-01	4.83E-01
429	LPE(P-20:0)	-2.2	0.2	0.2	3.52E-79	2.47E-78
430	PI(16:0/16:0)	1.9	0.6	0.6	1.18E-09	1.97E-09
431	PI(16:0_16:1)	6.0	0.6	0.6	1.13E-85	9.14E-85
432	PI(34:0)	-0.2	0.5	0.5	4.70E-01	4.94E-01
433	PI(34:1)	1.7	0.4	0.4	7.22E-19	1.62E-18
434	PI(15-MHDA_18:1)/PI(17:0_18:1)	0.8	0.3	0.3	3.73E-06	5.60E-06
435	PI(15-MHDA_18:2)/PI(17:0_18:2)	0.4	0.3	0.3	1.01E-02	1.23E-02
436	PI(18:0_18:1)	0.2	0.3	0.3	2.09E-01	2.31E-01
437	PI(36:2)	-0.3	0.3	0.3	1.66E-02	2.00E-02
438	PI(18:1_18:2)	-1.8	0.3	0.3	1.39E-23	3.44E-23
439	PI(16:0_20:3)(a)	0.3	0.3	0.3	7.37E-02	8.51E-02
440	PI(16:0_20:3)(b)	1.0	0.4	0.4	1.66E-07	2.61E-07
441	PI(16:0_20:4)	2.4	0.3	0.3	3.14E-51	1.36E-50
442	PI(15-MHDA_20:4)/PI(17:0_20:4)	1.4	0.3	0.3	1.35E-20	3.15E-20
443	PI(37:6)	-3.1	0.3	0.3	1.10E-68	6.25E-68
444	PI(18:0_20:2)	-0.7	0.3	0.3	4.10E-06	6.11E-06
445	PI(18:0_20:3)(a)	1.1	0.3	0.3	1.44E-16	2.97E-16
446	PI(18:0_20:3)(b)	0.0	0.4	0.4	9.77E-01	9.81E-01
447	PI(18:0_20:4)	1.0	0.3	0.3	1.68E-14	3.33E-14
448	PI(38:5)(a)	0.5	0.3	0.3	1.47E-03	1.91E-03
449	PI(38:5)(b)	0.0	0.3	0.3	8.53E-01	8.61E-01
450	PI(38:6)	-0.5	0.3	0.3	6.77E-03	8.38E-03

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
451	PI(39:6)	-1.0	0.3	0.3	9.60E-10	1.61E-09
452	PI(18:0_22:4)	1.6	0.4	0.4	2.22E-18	4.82E-18
453	PI(20:0_20:4)	0.2	0.4	0.4	4.35E-01	4.60E-01
454	PI(18:0_22:5)(n3)	1.3	0.3	0.3	1.27E-14	2.52E-14
455	PI(18:0_22:5)(n6)	-0.6	0.3	0.3	1.20E-03	1.56E-03
456	PI(18:0_22:6)	-0.6	0.3	0.3	5.65E-04	7.45E-04
457	LPI(18:0)[sn2]	0.3	0.5	0.5	2.60E-01	2.83E-01
458	LPI(18:0)[sn1]	0.9	0.3	0.3	2.17E-08	3.50E-08
459	LPI(18:1)[sn2]	0.6	0.4	0.4	1.93E-03	2.47E-03
460	LPI(18:1)[sn1]	0.7	0.4	0.4	3.80E-05	5.33E-05
461	LPI(18:2)[sn2]	0.5	0.3	0.3	8.94E-04	1.16E-03
462	LPI(18:2)[sn1]	1.0	0.3	0.3	9.04E-10	1.53E-09
463	LPI(20:4)[sn2]	1.4	0.3	0.3	1.11E-24	2.84E-24
464	LPI(20:4)[sn1]	1.8	0.3	0.3	2.83E-39	9.70E-39
465	PS(36:1)	1.9	0.3	0.3	1.37E-34	4.43E-34
466	PS(36:2)	0.7	0.3	0.3	2.15E-04	2.90E-04
467	PS(38:3)	1.2	0.4	0.4	1.03E-10	1.81E-10
468	PS(38:4)	1.1	0.3	0.3	2.74E-11	4.91E-11
469	PS(38:5)	0.2	0.3	0.3	1.60E-01	1.80E-01
470	PS(40:5)	0.8	0.4	0.4	6.72E-06	9.90E-06
471	PS(40:6)	0.6	0.4	0.4	1.65E-03	2.13E-03
472	PG(34:1)	1.0	0.4	0.4	6.27E-07	9.74E-07
473	PG(36:1)	4.3	0.4	0.4	1.54E-84	1.21E-83
474	PG(36:2)	3.0	0.4	0.4	1.57E-52	7.07E-52
475	PG(34:2)	1.4	0.4	0.4	1.49E-10	2.60E-10
476	CE(14:0)	-0.2	0.3	0.3	1.30E-01	1.47E-01
477	CE(15:0)	-1.6	0.3	0.3	5.27E-32	1.59E-31
478	CE(16:0)	0.5	0.1	0.1	6.23E-14	1.21E-13
479	CE(16:1)	3.3	0.4	0.4	5.63E-59	2.79E-58
480	CE(16:2)	-1.3	0.3	0.3	4.93E-15	9.95E-15
481	CE(17:0)	0.2	0.3	0.3	9.42E-02	1.08E-01
482	CE(17:1)	0.5	0.3	0.3	7.06E-04	9.24E-04
483	CE(18:0)	1.7	0.2	0.2	2.66E-42	9.69E-42
484	CE(18:1)	0.6	0.2	0.2	1.91E-12	3.58E-12
485	CE(18:2)	-0.3	0.1	0.1	4.71E-05	6.57E-05
486	CE(18:3)	-1.5	0.3	0.3	1.01E-20	2.35E-20
487	CE(20:0)	1.0	0.3	0.3	5.78E-12	1.06E-11
488	CE(20:1)	-0.2	0.2	0.2	1.29E-01	1.46E-01
489	CE(20:2)	0.5	0.2	0.2	6.48E-09	1.06E-08
490	CE(20:3)	2.1	0.2	0.2	2.52E-78	1.66E-77
491	CE(20:4)	-3.0	0.4	0.4	3.23E-61	1.66E-60
492	CE(20:5)	-4.2	0.5	0.5	1.02E-52	4.64E-52
493	CE(22:0)	0.8	0.3	0.3	1.54E-07	2.43E-07

Supplementary Table 5: Association of mBMIA with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIA) and lipids adjusting for age and sex				
		Percent difference per mBMIA ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
494	CE(22:1)	-0.3	0.3	0.3	7.55E-02	8.71E-02
495	CE(22:4)	-0.2	0.2	0.2	3.34E-02	3.95E-02
496	CE(22:5)(n3)	-2.4	0.4	0.4	2.24E-26	5.92E-26
497	CE(22:5)(n6)	-1.6	0.2	0.2	3.06E-39	1.04E-38
498	CE(22:6)	-2.3	0.3	0.3	8.32E-42	3.01E-41
499	CE(24:0)	0.4	0.2	0.2	1.07E-04	1.47E-04
500	CE(24:1)	-0.3	0.2	0.2	5.28E-03	6.58E-03
501	CE(24:4)	0.0	0.3	0.3	7.83E-01	7.99E-01
502	CE(24:5)	-0.4	0.4	0.4	2.76E-02	3.28E-02
503	CE(24:6)	-0.1	0.4	0.4	7.68E-01	7.85E-01
504	COH	0.4	0.1	0.1	7.09E-11	1.25E-10
505	DE(16:0)	-0.4	0.4	0.4	6.04E-02	7.03E-02
506	DE(18:1)	1.6	0.2	0.2	7.67E-43	2.84E-42
507	DE(18:2)	-1.6	0.3	0.3	4.43E-23	1.09E-22
508	DE(20:4)	-1.5	0.4	0.4	7.16E-13	1.36E-12
509	DE(20:5)	0.3	0.5	0.5	2.72E-01	2.95E-01
510	DE(22:6)	-0.8	0.4	0.4	8.05E-05	1.11E-04
511	Acylcarnitine(12:0)	-0.5	0.4	0.4	4.55E-03	5.69E-03
512	Acylcarnitine(13:0)	-1.5	0.4	0.4	4.87E-11	8.70E-11
513	Acylcarnitine(14:0)	0.2	0.3	0.3	1.79E-01	2.00E-01
514	Acylcarnitine(14:1)	-0.3	0.4	0.4	2.32E-01	2.55E-01
515	Acylcarnitine(14:2)	-0.8	0.4	0.4	7.45E-05	1.03E-04
516	Acylcarnitine(15:0)(a)	-0.5	0.4	0.4	4.75E-03	5.92E-03
517	Acylcarnitine(15:0)(b)	0.3	0.3	0.3	5.48E-02	6.42E-02
518	Acylcarnitine(16:0)	0.9	0.2	0.2	8.89E-13	1.68E-12
519	Acylcarnitine(16:1)	0.9	0.3	0.3	1.53E-08	2.48E-08
520	Acylcarnitine(17:0)(a)	0.2	0.3	0.3	1.89E-01	2.09E-01
521	Acylcarnitine(17:0)(b)	-0.1	0.2	0.2	5.52E-01	5.73E-01
522	Acylcarnitine(18:0)	-0.7	0.2	0.2	1.61E-08	2.61E-08
523	Acylcarnitine(18:1)	0.3	0.2	0.2	7.28E-03	8.95E-03
524	Acylcarnitine(18:2)	-0.5	0.3	0.3	2.11E-03	2.71E-03
525	DG(14:0_16:0)	5.6	0.5	0.5	2.90E-111	3.41E-110
526	DG(16:0_16:0)	6.1	0.5	0.5	1.23E-150	3.21E-149
527	DG(16:0_16:1)	7.1	0.5	0.5	6.00E-165	2.66E-163
528	DG(14:0_18:2)	5.5	0.5	0.6	6.40E-88	5.33E-87
529	DG(16:0_18:1)	6.7	0.5	0.5	3.77E-181	3.61E-179
530	DG(16:1_18:1)	6.2	0.5	0.5	1.50E-148	3.76E-147
531	DG(16:0_18:2)	5.3	0.4	0.4	6.18E-136	1.11E-134
532	DG(18:0_18:1)	5.9	0.4	0.4	4.80E-165	2.30E-163
533	DG(18:1_18:1)	4.9	0.4	0.4	3.90E-121	5.47E-120
534	DG(18:0_18:2)	5.4	0.4	0.4	3.37E-136	6.25E-135
535	DG(18:1_18:2)	3.7	0.4	0.4	9.63E-70	5.54E-69
536	DG(18:2_18:2)	2.7	0.5	0.5	1.28E-29	3.69E-29

Supplementary Table 5: Association of mBMIΔ with plasma lipid species						
Lipid #	Lipid species	Linear regression (mBMIΔ) and lipids adjusting for age and sex				
		Percent difference per mBMIΔ ^a	95% CI (Lower CL)	95% CI (Upper CL)	p-value	p-value (BH) ^b
537	DG(18:1_18:3)	3.4	0.4	0.4	2.47E-58	1.21E-57
538	DG(16:0_20:4)	6.7	0.5	0.5	1.17E-170	7.49E-169
539	DG(18:1_20:3)	3.5	0.4	0.4	7.93E-55	3.74E-54
540	DG(18:0_20:4)	3.9	0.3	0.3	2.40E-115	2.94E-114
541	DG(18:1_20:4)	5.0	0.4	0.4	1.38E-130	2.27E-129
542	DG(16:0_22:5)	3.9	0.4	0.4	2.29E-83	1.75E-82
543	DG(18:2_20:4)	4.4	0.5	0.5	2.16E-81	1.57E-80
544	DG(16:0_22:6)	5.4	0.6	0.6	5.65E-79	3.92E-78
545	TG(48:0)[NL-16:0]	7.7	0.6	0.6	1.13E-140	2.16E-139
546	TG(48:1)[NL-18:1]	6.1	0.5	0.5	8.16E-119	1.12E-117
547	TG(48:2)[NL-14:1]	7.5	0.6	0.6	3.21E-133	5.59E-132
548	TG(48:2)[NL-16:1]	8.2	0.6	0.6	6.27E-155	2.00E-153
549	TG(48:3)[NL-16:1]	6.8	0.6	0.6	1.03E-112	1.24E-111
550	TG(50:0)[NL-18:0]	9.2	0.7	0.7	6.82E-153	1.96E-151
551	TG(50:1)[NL-14:0]	4.9	0.5	0.5	1.19E-95	1.10E-94
552	TG(50:1)[NL-18:1]	5.5	0.4	0.4	8.15E-192	1.17E-189
553	TG(50:2)[NL-18:1]	4.2	0.3	0.3	1.99E-132	3.36E-131
554	TG(50:2)[NL-18:2]	4.8	0.3	0.3	9.26E-167	4.84E-165
555	TG(50:3)[NL-14:1]	3.7	0.4	0.4	1.01E-76	6.46E-76
556	TG(50:3)[NL-16:1]	6.1	0.5	0.5	8.52E-155	2.58E-153
557	TG(50:4)[NL-14:0]	3.9	0.6	0.6	1.14E-42	4.17E-42
558	TG(51:0)[NL-16:0]	7.2	0.6	0.6	3.45E-147	7.35E-146
559	TG(51:2)[NL-15:0]	2.7	0.4	0.4	5.93E-48	2.40E-47
560	TG(52:1)[NL-18:0]	8.7	0.6	0.6	1.72E-216	4.94E-214
561	TG(52:2)[NL-16:0]	2.6	0.2	0.2	3.47E-116	4.43E-115
562	TG(52:3)[NL-16:1]	1.8	0.3	0.3	8.68E-31	2.53E-30
563	TG(52:3)[NL-18:2]	2.3	0.2	0.2	2.93E-75	1.81E-74
564	TG(54:0)[NL-18:0]	6.2	0.6	0.6	2.03E-99	1.98E-98
565	TG(54:1)[NL-18:1]	8.4	0.6	0.6	1.50E-175	1.07E-173
566	TG(54:2)[NL-18:0]	5.7	0.4	0.4	9.27E-177	7.62E-175
567	TG(54:3)[NL-18:1]	1.0	0.3	0.3	6.62E-13	1.26E-12
568	TG(54:4)[NL-18:2]	0.6	0.3	0.3	1.68E-04	2.27E-04
569	TG(56:6)[NL-20:4]	1.2	0.3	0.3	2.14E-18	4.68E-18
570	TG(56:8)[NL-20:4]	3.1	0.4	0.4	8.83E-43	3.25E-42
571	TG(58:8)[NL-22:6]	1.7	0.5	0.5	6.33E-11	1.12E-10
572	TG(O-50:1)[NL-16:0]	2.5	0.3	0.3	6.07E-48	2.44E-47
573	TG(O-52:0)[NL-16:0]	7.2	0.6	0.6	1.51E-147	3.62E-146
574	TG(O-52:2)[NL-16:0]	2.2	0.3	0.3	1.00E-51	4.37E-51
575	Ubiquinone	1.6	0.3	0.3	4.53E-35	1.50E-34

^aLinear model was fit between mBMIΔ and each lipid species as an outcome adjusting for age and sex. β-coefficients and 95% confidence intervals were converted to percentage difference (percentage difference = (10^β-coefficient – 1) x 100); ^bp-values corrected for multiple comparisons by the method of Benjamini and Hochberg (BH). Significant p-values (<0.05) shown in bold; CI-confidence interval

Supplementary Table 6: Association of cardiometabolic risk factors with metabolic discordant groups in the AusDiab participants				
Risk factors	Q5 relative to Q1 (covariates: age, sex and BMI)^a	Q5 relative to Q1 (covariates: age, sex, BMI, total cholesterol, HDL-C and triglycerides)^b		
	Fold change (95% CI)	p-value	Fold change (95% CI)	p-value
Cholesterol	1.05 (1.04–1.07)	2.13E-13	1.04 (1.02–1.05)	4.79E-10
HDL-C	0.90 (0.88–0.92)	8.71E-93	0.92 (0.90–0.94)	3.99E-58
Triglycerides	1.52 (1.45–1.59)	6.73E-121	1.22 (1.17–1.28)	4.60E-39
FBG	1.02 (1.01–1.03)	1.97E-06	1.01(1.00–1.02)	1.88E-01
2h-PLG	1.17 (1.15–1.19)	1.19E-62	1.14 (1.12–1.16)	6.59E-39
HbA1c	1.01 (1.01–1.01)	7.60E-06	1.00 (1.00–1.01)	3.18E-01
HOMA-IR	1.59 (1.50–1.68)	1.69E-55	1.47 (1.38–1.56)	5.03E-36
SBP	1.04 (1.02–1.05)	4.97E-10	1.03 (1.02–1.04)	2.25E-07
DBP	1.03 (1.02–1.05)	1.67E-07	1.03 (1.02–1.04)	2.27E-05

^aLinear regression between the two most mBMI discordant groups (predictor) and cardiometabolic risk factors (outcome) adjusting for age, sex and BMI; ^bModel adjusted for clinical lipids on top of the covariates in model a; CI = confidence interval; Significant p-values (<0.05) shown in bold.

Supplementary Table 7: Risk of T2DM across quintiles of mBMIA in the AusDiab participants.				
mBMIA	Newly diagnosed prevalent T2DM (n=395 cases versus 7,733 NGT)		5-year incident T2DM (n=218 cases versus 5354 controls)	
	Odds ratio (95% CI)^a	p-value	Odds ratio (95% CI)^a	p-value
Q1 (reference)	-	-	-	-
Q2	1.5 (1.01, 2.3)	4.42E-02	1.3 (0.7, 2.2)	3.91E-01
Q3	2.0 (1.4, 3.0)	6.42E-04	2.3 (1.4, 3.8)	8.76E-04
Q4	2.5 (1.7, 3.7)	3.65E-06	2.3 (1.4, 3.8)	1.06E-03
Q5	4.5 (3.1, 6.6)	1.48E-15	2.5 (1.5, 4.1)	2.45E-04
	Odds ratio (95% CI)^b	p-value	Odds ratio (95% CI)^b	p-value
Q1 (reference)	-	-	-	-
Q2	1.4 (0.9, 2.1)	1.21E-01	1.2 (0.7, 2.1)	4.49E-01
Q3	1.8 (1.2, 2.7)	4.53E-03	2.1 (1.3, 3.5)	3.43E-03
Q4	2.1 (1.4, 3.1)	4.27E-04	2.0 (1.2, 3.4)	5.41E-03
Q5	3.5 (2.4, 5.2)	8.40E-11	2.1 (1.3, 3.5)	3.95E-03

^aLogistic regression between mBMIA quintile and T2DM (prevalent or incident) adjusting for age, sex and BMI; ^bLogistic regression between mBMIA quintile and T2DM (prevalent or incident) adjusting for age, sex and BMI plus clinical lipids (total cholesterol, HDL-C, and triglycerides) and smoking status; CI = confidence interval; T2DM, Type 2 diabetes mellitus; Significant p-values (<0.05) shown in bold.

Supplementary Table 8: Risk of prediabetes (prevalent and incident) across quintiles of mBMIΔ in the AusDiab participants.				
mBMIΔ	Prevalent prediabetes (n=1920 cases versus 7,733 NGT)		5-year incident prediabetes (n=417 cases versus 4023 NGT controls)	
	Odds ratio (95% CI) ^a	p-value	Odds ratio (95% CI) ^a	p-value
Q1 (reference)	-	-	-	-
Q2	1.3 (1.1, 1.6)	3.16E-03	1.1 (0.8, 1.6)	4.42E-01
Q3	1.7 (1.4, 2.0)	3.21E-08	1.3 (0.9, 1.8)	1.74E-01
Q4	2.0 (1.7, 2.4)	6.94E-14	1.6 (1.1, 2.3)	5.92E-03
Q5	3.0 (2.5, 3.5)	1.54E-33	2.5 (1.8, 3.5)	3.67E-08
	Odds ratio (95% CI) ^b	p-value	Odds ratio (95% CI) ^b	p-value
Q1 (reference)	-	-	-	-
Q2	1.3 (1.1, 1.6)	9.19E-03	1.1 (0.8, 1.6)	5.37E-01
Q3	1.6 (1.3, 1.9)	1.66E-06	1.2 (0.8, 1.7)	3.47E-01
Q4	1.9 (1.5, 2.2)	5.68E-11	1.5 (1.0, 2.1)	3.44E-02
Q5	2.7 (2.2, 3.2)	8.11E-26	2.2 (1.5, 3.0)	9.46E-06

^aLogistic regression between mBMIΔ quintile and prediabetes (prevalent or incident) adjusting for age, sex and BMI ;

^bLogistic regression between mBMIΔ quintile and prediabetes (prevalent or incident) adjusting for age, sex and BMI plus clinical lipids (total cholesterol, HDL-C, and triglycerides) and smoking status; CI = confidence interval; Significant p-values (<0.05) shown in bold.

Supplementary Table 9: Independent association between quintiles of mBMIΔ with isolated IGT and IFG in the AusDiab participants.				
mBMIΔ	Isolated IGT (n=988 cases versus 7,733 NGT)		Isolated IFG (n=613 cases versus 7,733 NGT)	
	Odds ratio (95% CI) ^a	p-value	Odds ratio (95% CI) ^b	p-value
Q1 (reference)	-	-	-	-
Q2	1.3 (1.0, 1.6)	6.05E-02	1.3 (1.0, 1.8)	5.98E-02
Q3	1.5 (1.2, 2.0)	7.59E-04	1.4 (1.04, 1.9)	2.66E-02
Q4	1.9 (1.5, 2.4)	4.17E-07	1.6 (1.2, 2.1)	2.95E-03
Q5	2.4 (1.9, 3.0)	1.70E-12	2.2 (1.6, 2.9)	2.73E-07

^aLogistic regression between mBMIΔ quintile and IGT adjusting for age, sex, BMI, total cholesterol, HDL-C, triglycerides and FBG; ^bLogistic regression between mBMIΔ quintile and IFG adjusting for age, sex, BMI, total cholesterol, HDL-C,

triglycerides and 2h-PLG; CI = confidence interval; Significant p-values (<0.05) shown in bold.

Supplementary Table 10: The association between mBMIA and CVD (prevalent and incident) the AusDiab cohort						
mBMIA	Prevalent CVD (n=577 cases versus 9690 controls)		10 year incident CVE (n=414 events versus 7936 non-events)		10 year incident IHD (n=304 events versus 8046 non-events)	
	Odds ratio (95% CI) ^a	p-value	Hazard ratio (95% CI) ^b	p-value	Hazard ratio (95% CI) ^c	p-value
mBMIA (SD)	1.3 (1.1, 1.4)	1.28E-04	1.0 (0.9, 1.2)	5.00E-01	1.1 (0.9, 1.2)	4.00E-01
Q1 (reference)	-	-	-	-	-	-
Q2	1.5 (1.0, 2.2)	5.80E-02	1.0 (0.7, 1.4)	9.00E-01	1.0 (0.7, 1.4)	8.00E-01
Q3	1.3 (0.9, 2.0)	1.51E-01	0.9 (0.6, 1.3)	5.00E-01	0.8 (0.6, 1.2)	3.00E-01
Q4	1.7 (1.1, 2.5)	1.07E-02	1.2 (0.9, 1.7)	2.00E-01	1.2 (0.8, 1.7)	3.00E-01
Q5	2.1 (1.5, 3.2)	1.25E-04	1.1 (0.8, 1.5)	6.00E-01	1.0 (0.7, 1.5)	9.00E-01

^aLogistic regression between the quintiles of mBMIA and prevalent CVD adjusting for age, sex, BMI, smoking status, diabetes history plus clinical lipids (total cholesterol, HDL-C and triglycerides); ^bProportional hazard Cox-regression between the quintiles of mBMIA and major incident CVE adjusting for age, sex, BMI, smoking status and diabetes history plus clinical lipids (total cholesterol, HDL-C and triglycerides); ^cProportional hazard Cox-regression between the quintiles of mBMIA and incident IHD adjusting for age, sex, BMI, total cholesterol, HDL-C, triglycerides, smoking status and diabetes history; Significant p-values (<0.05) shown in bold; CVD, Cardiovascular disease; CVE, Cardiovascular event; IHD, ischemic heart disease; Q, quintile

Supplementary Table 11: The association between mBMIA and CVD (prevalent and incident) the BHS cohort				
mBMIA	Prevalent CVD (n=238 cases versus 4254 controls)		10 year incident CVE (IHD) (n=284 events versus 3970 non-events)	
	Odds ratio (95% CI) ^a	p-value	Hazard ratio (95% CI) ^c	p-value
mBMIA (SD)	1.19 (1.03, 1.37)	2.1E-02	1.2 (1.1, 1.3)	5.00E-03
Q1 (reference)	-	-	-	-
Q2	0.8 (0.5, 1.4)	4.5E-01	1.2 (0.8, 1.9)	3.00E-01
Q3	1.6 (1.0, 2.6)	5.6E-02	1.8 (1.2, 2.7)	9.00E-03
Q4	1.4 (0.8, 2.2)	2.1E-01	1.8 (1.2, 2.8)	4.00E-03
Q5	1.4 (0.9, 2.3)	1.4E-01	1.7 (1.1, 2.6)	1.10E-02
	Odds ratio (95% CI) ^b	p-value	Hazard ratio (95% CI) ^d	p-value
mBMIA (SD)	1.1 (0.9, 1.3)	1.94E-01	1.1 (0.9, 1.2)	2.00E-01
Q1 (reference)	-	-	-	-
Q2	0.8 (0.5, 1.3)	3.57E-01	1.1 (0.7, 1.7)	7.00E-01
Q3	1.5 (0.9, 2.4)	9.70E-02	1.5 (1.0, 2.4)	4.55E-02
Q4	1.2 (0.8, 2.0)	4.36E-01	1.6 (1.0, 2.4)	3.40E-02
Q5	1.2 (0.7, 1.9)	5.57E-01	1.3 (0.8, 2.0)	3.00E-01

^aLogistic regression between the quintiles of mBMIA and prevalent CVD adjusting for age, sex, BMI, smoking status and diabetes history; ^bLogistic regression between the quintiles of mBMIA and prevalent CVD adjusting for age, sex, BMI, total cholesterol, HDL-C, triglycerides, smoking status and diabetes history; ^cProportional hazard Cox-regression between the quintiles of mBMIA and incident CVE adjusting for age, sex, BMI, smoking status and diabetes history; ^dProportional hazard Cox-regression between the quintiles of mBMIA and incident CVE adjusting for age, sex, BMI, total cholesterol, HDL-C, triglycerides, smoking status and diabetes history; Significant p-values (<0.05) shown in bold; CVD, Cardiovascular disease; CVE, Cardiovascular event; IHD, ischemic heart disease; Q, quintile

Supplementary Table 12: The association of BMI, mBMI and mBMIΔ with disease outcomes in the AusDiab participants						
Outcome	BMI^a		mBMI^b		mBMIΔ^c	
	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value
Newly diagnosed prevalent T2DM (n=395 cases versus 7,733 NGT)	2.36 (2.12–2.63)	1.38E-55	2.65 (2.36–2.97)	5.11E-62	1.69 (1.51–1.88)	6.48E-21
5-year incident T2DM (n=218 cases versus 5354 controls)	1.83 (1.60–2.08)	2.46E-19	1.95 (1.70–2.24)	1.62E-21	1.34 (1.17–1.54)	2.34E-05
Prevalent CVD (n=577 cases versus 9690 controls) ^d	1.29 (1.13–1.47)	2.59E-04	1.4 (1.23–1.60)	1.74E-09	1.29 (1.14–1.44)	3.40E-05
	Hazard ratio (95% CI)		Hazard ratio (95% CI)		Hazard ratio (95% CI)	
10 year incident CVE (n=414 events versus 7936 non-events) ^d	1.13 (1.01–1.27)	2.70E-02	1.36 (0.99–1.85)	5.45E-02	1.11 (1.0–1.22)	4.30E-02

^aLogistic/Cox regression between cardiometabolic outcomes and BMI adjusted for age, sex and mBMIΔ;

^bLogistic/Cox regression between cardiometabolic outcomes and mBMI adjusted for age, and sex;

^cLogistic/Cox regression between cardiometabolic outcomes and mBMIΔ adjusted for age, sex, and BMI;

^dThe model includes diabetes history and smoking as covariates in addition to the covariates in the models a, b and c

Supplementary Table 13: The effect of mBMIA on logistic models to predict prevalent and incident T2DM and CVD													
Model ^a	Associations with newly diagnosed prevalent T2DM (n=395 /7733 NGT)			Likelihood ratio test (LRT)	Associations with 5 year incident T2DM (n=218/5354 controls)			Likelihood ratio test (LRT)	Associations with prevalent CVD (n=577/9690)			Likelihood ratio test (LRT)	
	Odds ratio (95% CI)	p-value	AIC	p-value	Odds ratio (95% CI)	p-value	AIC	p-value	Odds ratio (95% CI)	p-value	AIC	p-value	
Age	2.7 (2.4, 3.0)	5.96E-64	2652.4	8.02E-13	1.6 (1.3, 1.8)	2.33E-08	1742.4	7.98E-04	3.38 (3.03, 3.77)	4.56E-106	3269.9	6.02E-05	
Sex (Male)	1.5 (1.2, 1.8)	6.76E-04			1.3 (1.0, 1.76)	4.82E-02			1.94 (1.61, 2.34)	6.15E-12			
BMI	2.1 (1.9, 2.3)	2.66E-49			1.7 (1.5, 2.0)	6.41E-19			1.23 (1.11, 1.35)	3.52E-05			
Model ^b													
Age	2.7 (2.4, 3.0)	9.65E-63	2603.1		1.6 (1.3, 1.8)	4.88E-08	1733.1		3.41 (3.06, 3.82)	1.34E-105	3254.8		
Sex (Male)	1.6 (1.3, 2.0)	5.06E-05			1.4 (1.0, 1.8)	2.98E-02			1.96 (1.62, 2.37)	3.24E-12			
BMI	2.2 (2.0, 2.5)	7.69E-52			1.8 (1.6, 2.0)	3.46E-19			1.27 (1.15, 1.40)	3.62E-06			
mBMIA	2.4 (1.9, 3.0)	1.07E-12			1.7 (1.2, 2.3)	7.53E-04			1.22 (1.11, 1.34)	3.94E-05			

^aLogistic regression between outcomes and metabolic risk factors adjusted for age and sex and BMI; ^bLogistic regression between outcomes and metabolic risk factors adjusted for age and sex, BMI and mBMIA; T2DM, Type 2 diabetes mellitus; NGT, Normal glucose tolerant; CVD, Cardiovascular disease; AIC, Akaike's information criteria

Supplementary Table 14: The association between anthropometric measures, diet and lifestyle factors and mBMIΔ		
Variable	Beta coefficient (95% CI)^a	p-value
Age	-0.015 (-0.079, 0.048)	6.39E-01
Sex	0.253 (0.136, 0.371)	2.29E-05
BMI	-0.038 (-0.048, -0.027)	2.65E-12
Current smoker	-0.195 (-0.34, -0.051)	8.14E-03
PA time (Q2 relative to Q1)	0.068 (-0.087, 0.223)	3.90E-01
PA time (Q3 relative to Q1)	-0.113 (-0.267, 0.042)	1.53E-01
PA time (Q4 relative to Q1)	-0.244 (-0.4, -0.089)	2.10E-03
PA time (Q5 relative to Q1)	-0.51 (-0.67, -0.35)	4.39E-10
TV time (Q2 relative to Q1)	0.202 (0.07, 0.335)	2.81E-03
TV time (Q3 relative to Q1)	0.298 (0.158, 0.439)	3.05E-05
TV time (Q4 relative to Q1)	0.352 (0.177, 0.526)	8.26E-05
TV time (Q5 relative to Q1)	0.514 (0.311, 0.716)	6.79E-07
SBP	0.194 (0.133, 0.254)	3.60E-10
Family history of diabetes	0.237 (0.108, 0.365)	3.04E-04
History of CVD	0.271 (0.051, 0.491)	1.56E-02
Alcohol (100g/d)	0.045 (-1.147, 1.237)	9.40E-01
Level of education (Never to some high school, completed university or equivalent)	-0.073 (-0.175, 0.029)	1.60E-01
Red meat (100g/d)	0.102 (0.001, 0.203)	4.86E-02
Processed meat (100g/d)	0.345 (0.067, 0.623)	1.50E-02
Fish (g/d)	-0.001 (-0.004, 0.001)	2.45E-01
All Fat (100g/d)	-0.503 (-1.069, 0.062)	8.10E-02
Fibre intake (Q2 relative to Q1)	-0.154 (-0.321, 0.012)	6.98E-02
Fibre intake (Q3 relative to Q1)	-0.288 (-0.482, -0.094)	3.66E-03
Fibre intake (Q4 relative to Q1)	-0.484 (-0.712, -0.257)	2.99E-05
Fibre intake (Q5 relative to Q1)	-0.622 (-0.912, -0.333)	2.54E-05
Carbohydrate (g/d)	0.057 (-0.023, 0.138)	1.64E-01
Sugars (g/d)	-0.038 (-0.123, 0.046)	3.75E-01
Protein (g/d)	-0.504 (-1.111, 0.102)	1.03E-01
Energy intake (100g/d)	0.008 (0.001, 0.015)	3.62E-02
Total vegetable intake (100g/d)	0.085 (-0.014, 0.184)	9.19E-02
Total fruit intake (Q2 relative to Q1)	-0.052 (-0.209, 0.105)	5.14E-01
Total fruit intake (Q3 relative to Q1)	-0.128 (-0.292, 0.036)	1.27E-01
Total fruit intake (Q4 relative to Q1)	-0.25 (-0.423, -0.076)	4.76E-03
Total fruit intake (Q5 relative to Q1)	-0.25 (-0.443, -0.057)	3.90E-03

^aMultiple linear regression of mBMIΔ against anthropometric measures, diet and lifestyle factors; Significant p-values (<0.05) shown in bold; CI-confidence interval; PA, physical activity; TV time, television viewing time

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
1	Sph(d16:1)	[M+H] ⁺	272.3	254.3	8	Sph(d17:1)	20
2	Sph(d17:1)	[M+H] ⁺	286.3	268.3	8	Sph(d17:1)	20
3	Sph(d18:1)	[M+H] ⁺	300.3	282.3	8	Sph(d17:1)	20
4	Sph(d18:2)	[M+H] ⁺	298.3	280.3	8	Sph(d17:1)	20
5	S1P(d16:1)	[M+H] ⁺	352.2	236.3	11	S1P(d17:1)	25
6	S1P(d18:0)	[M+H] ⁺	382.2	284.3	11	S1P(d17:1)	26
7	S1P(d18:1)	[M+H] ⁺	380.2	264.3	11	S1P(d17:1)	27
8	S1P(d18:2)	[M+H] ⁺	378.2	262.3	11	S1P(d17:1)	28
9	dihydroCer(d18:0/16:0)	[M+H] ⁺	540.5	284.3	31	dihydroCer(d18:0/8:0)	50
10	dihydroCer(d18:0/18:0)	[M+H] ⁺	568.6	284.3	31	dihydroCer(d18:0/8:0)	50
11	dihydroCer(d18:0/20:0)	[M+H] ⁺	596.6	284.3	31	dihydroCer(d18:0/8:0)	50
12	dihydroCer(d18:0/22:0)	[M+H] ⁺	624.6	284.3	31	dihydroCer(d18:0/8:0)	50
13	dihydroCer(d18:0/24:0)	[M+H] ⁺	652.7	284.3	31	dihydroCer(d18:0/8:0)	50
14	dihydroCer(d18:0/24:1)	[M+H] ⁺	650.6	284.3	31	dihydroCer(d18:0/8:0)	50
15	Cer(d16:1/16:0)	[M+H] ⁺	510.6	236.3	23	Cer(d18:1-d7/18:0)	50
16	Cer(d16:1/18:0)	[M+H] ⁺	538.6	236.3	23	Cer(d18:1-d7/18:0)	50
17	Cer(d16:1/20:0)	[M+H] ⁺	566.6	236.3	23	Cer(d18:1-d7/18:0)	50
18	Cer(d16:1/22:0)	[M+H] ⁺	594.6	236.3	23	Cer(d18:1-d7/18:0)	50
19	Cer(d16:1/23:0)	[M+H] ⁺	608.6	236.3	23	Cer(d18:1-d7/18:0)	50
20	Cer(d16:1/24:0)	[M+H] ⁺	622.6	236.3	23	Cer(d18:1-d7/18:0)	50
21	Cer(d16:1/24:1)	[M+H] ⁺	620.6	236.3	23	Cer(d18:1-d7/18:0)	50
22	Cer(d17:1/16:0)	[M+H] ⁺	524.6	250.3	23	Cer(d18:1-d7/18:0)	50
23	Cer(d17:1/18:0)	[M+H] ⁺	552.6	250.3	23	Cer(d18:1-d7/18:0)	50
24	Cer(d17:1/20:0)	[M+H] ⁺	580.6	250.3	23	Cer(d18:1-d7/18:0)	50
25	Cer(d17:1/22:0)	[M+H] ⁺	608.6	250.3	23	Cer(d18:1-d7/18:0)	50
26	Cer(d17:1/23:0)	[M+H] ⁺	622.6	250.3	23	Cer(d18:1-d7/18:0)	50
27	Cer(d17:1/24:0)	[M+H] ⁺	636.6	250.3	23	Cer(d18:1-d7/18:0)	50
28	Cer(d17:1/24:1)	[M+H] ⁺	634.6	250.3	23	Cer(d18:1-d7/18:0)	50
29	Cer(d18:1/14:0)	[M+H] ⁺	510.5	264.3	23	Cer(d18:1-d7/18:0)	50
30	Cer(d18:1/16:0)	[M+H] ⁺	538.5	264.3	23	Cer(d18:1-d7/18:0)	50
31	Cer(d18:1/17:0)	[M+H] ⁺	552.5	264.3	23	Cer(d18:1-d7/18:0)	50
32	Cer(d18:1/18:0)	[M+H] ⁺	566.6	264.3	23	Cer(d18:1-d7/18:0)	50
33	Cer(d18:1/19:0)	[M+H] ⁺	580.6	264.3	23	Cer(d18:1-d7/18:0)	50
34	Cer(d18:1/20:0)	[M+H] ⁺	594.6	264.3	23	Cer(d18:1-d7/18:0)	50
35	Cer(d18:1/21:0)	[M+H] ⁺	608.6	264.3	23	Cer(d18:1-d7/18:0)	50
36	Cer(d18:1/22:0)	[M+H] ⁺	622.6	264.3	23	Cer(d18:1-d7/18:0)	50
37	Cer(d18:1/23:0)	[M+H] ⁺	636.6	264.3	23	Cer(d18:1-d7/18:0)	50
38	Cer(d18:1/24:0)	[M+H] ⁺	650.6	264.3	23	Cer(d18:1-d7/18:0)	50

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
39	Cer(d18:1/24:1)	[M+H] ⁺	648.6	264.3	23	Cer(d18:1-d7/18:0)	50
40	Cer(d18:1/26:0)	[M+H] ⁺	678.6	264.3	23	Cer(d18:1-d7/18:0)	50
41	Cer(d18:2/14:0)	[M+H] ⁺	508.5	262.3	23	Cer(d18:1-d7/18:0)	50
42	Cer(d18:2/16:0)	[M+H] ⁺	536.5	262.3	23	Cer(d18:1-d7/18:0)	50
43	Cer(d18:2/17:0)	[M+H] ⁺	550.5	262.3	23	Cer(d18:1-d7/18:0)	50
44	Cer(d18:2/18:0)	[M+H] ⁺	564.6	262.3	23	Cer(d18:1-d7/18:0)	50
45	Cer(d18:2/20:0)	[M+H] ⁺	592.6	262.3	23	Cer(d18:1-d7/18:0)	50
46	Cer(d18:2/21:0)	[M+H] ⁺	606.6	262.3	23	Cer(d18:1-d7/18:0)	50
47	Cer(d18:2/22:0)	[M+H] ⁺	620.6	262.3	23	Cer(d18:1-d7/18:0)	50
48	Cer(d18:2/23:0)	[M+H] ⁺	634.6	262.3	23	Cer(d18:1-d7/18:0)	50
49	Cer(d18:2/24:0)	[M+H] ⁺	648.6	262.3	23	Cer(d18:1-d7/18:0)	50
50	Cer(d18:2/24:1)	[M+H] ⁺	646.6	262.3	23	Cer(d18:1-d7/18:0)	50
51	Cer(d18:2/26:0)	[M+H] ⁺	676.6	262.3	23	Cer(d18:1-d7/18:0)	50
52	Cer(d19:1/16:0)	[M+H] ⁺	552.6	278.3	23	Cer(d18:1-d7/18:0)	50
53	Cer(d19:1/18:0)	[M+H] ⁺	580.6	278.3	23	Cer(d18:1-d7/18:0)	50
54	Cer(d19:1/20:0)	[M+H] ⁺	608.6	278.3	23	Cer(d18:1-d7/18:0)	50
55	Cer(d19:1/22:0)	[M+H] ⁺	636.6	278.3	23	Cer(d18:1-d7/18:0)	50
56	Cer(d19:1/23:0)	[M+H] ⁺	650.6	278.3	23	Cer(d18:1-d7/18:0)	50
57	Cer(d19:1/24:0)	[M+H] ⁺	664.6	278.3	23	Cer(d18:1-d7/18:0)	50
58	Cer(d19:1/24:1)	[M+H] ⁺	662.6	278.3	23	Cer(d18:1-d7/18:0)	50
59	Cer(d19:1/26:0)	[M+H] ⁺	692.6	278.3	23	Cer(d18:1-d7/18:0)	50
60	Cer(d20:1/22:0)	[M+H] ⁺	650.6	292.3	23	Cer(d18:1-d7/18:0)	50
61	Cer(d20:1/23:0)	[M+H] ⁺	664.6	292.3	23	Cer(d18:1-d7/18:0)	50
62	Cer(d20:1/24:0)	[M+H] ⁺	678.6	292.3	23	Cer(d18:1-d7/18:0)	50
63	Cer(d20:1/24:1)	[M+H] ⁺	676.6	292.3	23	Cer(d18:1-d7/18:0)	50
64	Cer(d20:1/26:0)	[M+H] ⁺	706.6	292.3	23	Cer(d18:1-d7/18:0)	50
65	Cer(m18:0/20:0)	[M+H] ⁺	580.6	268.4	23	Cer(d18:1-d7/18:0)	50
66	Cer(m18:0/22:0)	[M+H] ⁺	608.6	268.4	23	Cer(d18:1-d7/18:0)	50
67	Cer(m18:0/23:0)	[M+H] ⁺	622.6	268.4	23	Cer(d18:1-d7/18:0)	50
68	Cer(m18:0/24:0)	[M+H] ⁺	636.6	268.4	23	Cer(d18:1-d7/18:0)	50
69	Cer(m18:0/24:1)	[M+H] ⁺	634.6	268.4	23	Cer(d18:1-d7/18:0)	50
70	Cer(m18:1/18:0)	[M+H] ⁺	550.6	266.4	23	Cer(d18:1-d7/18:0)	50
71	Cer(m18:1/20:0)	[M+H] ⁺	578.6	266.4	23	Cer(d18:1-d7/18:0)	50
72	Cer(m18:1/22:0)	[M+H] ⁺	606.6	266.4	23	Cer(d18:1-d7/18:0)	50
73	Cer(m18:1/23:0)	[M+H] ⁺	620.6	266.4	23	Cer(d18:1-d7/18:0)	50
74	Cer(m18:1/24:0)	[M+H] ⁺	634.6	266.4	23	Cer(d18:1-d7/18:0)	50
75	Cer(m18:1/24:1)	[M+H] ⁺	632.6	266.4	23	Cer(d18:1-d7/18:0)	50
76	HexCer(d16:1/18:0)	[M+H] ⁺	700.6	236.3	33	Hex1Cer(d18:1/18:1)	50

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
77	HexCer(d16:1/20:0)	[M+H] ⁺	728.6	236.3	33	Hex1Cer(d18:1/18:1)	50
78	HexCer(d16:1/22:0)	[M+H] ⁺	756.7	236.3	33	Hex1Cer(d18:1/18:1)	50
79	HexCer(d16:1/24:0)	[M+H] ⁺	784.7	236.3	33	Hex1Cer(d18:1/18:1)	50
80	HexCer(d18:1/16:0)	[M+H] ⁺	700.6	264.3	33	Hex1Cer(d18:1/18:1)	50
81	HexCer(d18:1/18:0)	[M+H] ⁺	728.6	264.3	33	Hex1Cer(d18:1/18:1)	50
82	HexCer(d18:1/20:0)	[M+H] ⁺	756.6	264.3	33	Hex1Cer(d18:1/18:1)	50
83	HexCer(d18:1/22:0)	[M+H] ⁺	784.7	264.3	33	Hex1Cer(d18:1/18:1)	50
84	HexCer(d18:1/24:0)	[M+H] ⁺	812.7	264.3	33	Hex1Cer(d18:1/18:1)	50
85	HexCer(d18:1/24:1)	[M+H] ⁺	810.7	264.3	33	Hex1Cer(d18:1/18:1)	50
86	HexCer(d18:2/18:0)	[M+H] ⁺	726.6	262.3	33	Hex1Cer(d18:1/18:1)	50
87	HexCer(d18:2/20:0)	[M+H] ⁺	754.6	262.3	33	Hex1Cer(d18:1/18:1)	50
88	HexCer(d18:2/22:0)	[M+H] ⁺	782.7	262.3	33	Hex1Cer(d18:1/18:1)	50
89	HexCer(d18:2/24:0)	[M+H] ⁺	810.7	262.3	33	Hex1Cer(d18:1/18:1)	50
90	Hex2Cer(d16:1/16:0)	[M+H] ⁺	834.6	236.3	53	Hex2Cer(d18:1/18:1)	50
91	Hex2Cer(d16:1/24:1)	[M+H] ⁺	944.7	236.3	53	Hex2Cer(d18:1/18:1)	50
92	Hex2Cer(d18:1/16:0)	[M+H] ⁺	862.6	264.3	53	Hex2Cer(d18:1/18:1)	50
93	Hex2Cer(d18:1/18:0)	[M+H] ⁺	890.7	264.3	53	Hex2Cer(d18:1/18:1)	50
94	Hex2Cer(d18:1/20:0)	[M+H] ⁺	918.7	264.3	53	Hex2Cer(d18:1/18:1)	50
95	Hex2Cer(d18:1/22:0)	[M+H] ⁺	946.7	264.3	53	Hex2Cer(d18:1/18:1)	50
96	Hex2Cer(d18:1/24:0)	[M+H] ⁺	974.8	264.3	53	Hex2Cer(d18:1/18:1)	50
97	Hex2Cer(d18:1/24:1)	[M+H] ⁺	972.7	264.3	53	Hex2Cer(d18:1/18:1)	50
98	Hex2Cer(d18:2/16:0)	[M+H] ⁺	860.6	262.3	53	Hex2Cer(d18:1/18:1)	50
99	Hex2Cer(d18:2/24:1)	[M+H] ⁺	970.7	262.3	53	Hex2Cer(d18:1/18:1)	50
100	Hex3Cer(d18:1/16:0)	[M+H] ⁺	1024.7	264.3	57	Hex3Cer(d18:1/17:0)	25
101	Hex3Cer(d18:1/18:0)	[M+H] ⁺	1052.7	264.3	57	Hex3Cer(d18:1/17:0)	25
102	Hex3Cer(d18:1/20:0)	[M+H] ⁺	1080.7	264.3	57	Hex3Cer(d18:1/17:0)	25
103	Hex3Cer(d18:1/22:0)	[M+H] ⁺	1108.8	264.3	57	Hex3Cer(d18:1/17:0)	25
104	Hex3Cer(d18:1/24:0)	[M+H] ⁺	1136.8	264.3	57	Hex3Cer(d18:1/17:0)	25
105	Hex3Cer(d18:1/24:1)	[M+H] ⁺	1134.8	264.3	57	Hex3Cer(d18:1/17:0)	25
106	GM3(d18:1/16:0)	[M+H] ⁺	1153.7	264.3	57	Hex3Cer(d18:1/17:0)	25
107	GM3(d18:1/18:0)	[M+H] ⁺	1181.8	264.3	57	Hex3Cer(d18:1/17:0)	25
108	GM3(d18:1/20:0)	[M+H] ⁺	1209.8	264.3	57	Hex3Cer(d18:1/17:0)	25
109	GM3(d18:1/22:0)	[M+H] ⁺	1237.8	264.3	57	Hex3Cer(d18:1/17:0)	25
110	GM3(d18:1/24:0)	[M+H] ⁺	1265.8	264.3	57	Hex3Cer(d18:1/17:0)	25
111	GM3(d18:1/24:1)	[M+H] ⁺	1263.8	264.3	57	Hex3Cer(d18:1/17:0)	25
112	GM3(d18:2/24:1)	[M+H] ⁺	1261.8	262.3	57	Hex3Cer(d18:1/17:0)	25
113	GM3(d20:1/18:0)	[M+H] ⁺	1209.8	292.3	57	Hex3Cer(d18:1/17:0)	25
114	GM1(d18:1/16:0)	[M+2H] ²⁺	760.1	366.2	9	Hex3Cer(d18:1/17:0)	25

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
115	Sulfatide (d18:1/16:0(OH))	[M+H] ⁺	796.8	264.3	56	Sulfatide(d18:1/12:0)	10
116	Sulfatide (d18:1/16:0)	[M+H] ⁺	780.8	264.3	56	Sulfatide(d18:1/12:0)	10
117	Sulfatide (d18:1/18:0(OH))	[M+H] ⁺	824.8	264.3	56	Sulfatide(d18:1/12:0)	10
118	Sulfatide (d18:1/18:0)	[M+H] ⁺	808.8	264.3	56	Sulfatide(d18:1/12:0)	10
119	Sulfatide (d18:1/24:0(OH))	[M+H] ⁺	908.8	264.3	56	Sulfatide(d18:1/12:0)	10
120	Sulfatide (d18:1/24:0)	[M+H] ⁺	892.8	264.3	56	Sulfatide(d18:1/12:0)	10
121	Sulfatide (d18:1/24:1(OH))	[M+H] ⁺	906.8	264.3	56	Sulfatide(d18:1/12:0)	10
122	Sulfatide (d18:1/24:1)	[M+H] ⁺	890.8	264.3	56	Sulfatide(d18:1/12:0)	10
123	Sulfatide (d18:2/18:0(OH))	[M+H] ⁺	822.8	262.3	56	Sulfatide(d18:1/12:0)	10
124	Sulfatide (d18:2/18:0)	[M+H] ⁺	806.8	262.3	56	Sulfatide(d18:1/12:0)	10
125	Cer1P(d18:1/16:0)	[M+H] ⁺	618.4	264.3	29	Cer(d18:1-d7/18:0)	50
126	SM(34:3)	[M+H] ⁺	699.5	184.1	25	SM(d18:1/12:0)	100
127	SM(35:2) (b)	[M+H] ⁺	715.6	184.1	25	SM(d18:1/12:0)	100
128	SM(37:1)	[M+H] ⁺	745.6	184.1	25	SM(d18:1/12:0)	100
129	SM(37:2)	[M+H] ⁺	743.5	184.1	25	SM(d18:1/12:0)	100
130	SM(38:3) (a)	[M+H] ⁺	755.6	184.1	25	SM(d18:1/12:0)	100
131	SM(38:3) (b)	[M+H] ⁺	755.6	184.1	25	SM(d18:1/12:0)	100
132	SM(40:3) (a)	[M+H] ⁺	783.6	184.1	25	SM(d18:1/12:0)	100
133	SM(40:3) (b)	[M+H] ⁺	783.6	184.1	25	SM(d18:1/12:0)	100
134	SM(41:0)	[M+H] ⁺	803.7	184.1	25	SM(d18:1/12:0)	100
135	SM(41:1) (a)	[M+H] ⁺	801.7	184.1	25	SM(d18:1/12:0)	100
136	SM(43:1)	[M+H] ⁺	829.7	184.1	25	SM(d18:1/12:0)	100
137	SM(43:2) (b)	[M+H] ⁺	827.7	184.1	25	SM(d18:1/12:0)	100
138	SM(43:2) (c)	[M+H] ⁺	827.7	184.1	25	SM(d18:1/12:0)	100
139	SM(44:1)	[M+H] ⁺	843.6	184.1	25	SM(d18:1/12:0)	100
140	SM(44:2)	[M+H] ⁺	841.6	184.1	25	SM(d18:1/12:0)	100
141	SM(44:3)	[M+H] ⁺	839.6	184.1	25	SM(d18:1/12:0)	100
142	SM(d16:1/19:0)	[M+H] ⁺	717.6	184.1	25	SM(d18:1/12:0)	100
143	SM(d16:1/23:0)/SM(d17:1/22:0)	[M+H] ⁺	773.7	184.1	25	SM(d18:1/12:0)	100
144	SM(d16:1/24:1)	[M+H] ⁺	785.7	184.1	25	SM(d18:1/12:0)	100
145	SM(d17:1/14:0)	[M+H] ⁺	661.5	184.1	25	SM(d18:1/12:0)	100
146	SM(d17:1/16:0)	[M+H] ⁺	689.6	184.1	25	SM(d18:1/12:0)	100
147	SM(d17:1/24:1)	[M+H] ⁺	799.7	184.1	25	SM(d18:1/12:0)	100
148	SM(d18:0/14:0)	[M+H] ⁺	677.6	184.1	25	SM(d18:1/12:0)	100
149	SM(d18:0/16:0)	[M+H] ⁺	705.6	184.1	25	SM(d18:1/12:0)	100
150	SM(d18:0/22:0)	[M+H] ⁺	789.7	184.1	25	SM(d18:1/12:0)	100
151	SM(d18:1/14:0)/SM(d16:1/16:0)	[M+H] ⁺	675.5	184.1	25	SM(d18:1/12:0)	100
152	SM(d18:1/16:0)	[M+H] ⁺	703.6	184.1	25	SM(d18:1/12:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
153	SM(d18:1/17:0)/SM(d17:1/18:0)	[M+H] ⁺	717.6	184.1	25	SM(d18:1/12:0)	100
154	SM(d18:1/18:0)/SM(d16:1/20:0)	[M+H] ⁺	731.6	184.1	25	SM(d18:1/12:0)	100
155	SM(d18:1/20:0)/SM(d16:1/22:0)	[M+H] ⁺	759.6	184.1	25	SM(d18:1/12:0)	100
156	SM(d18:1/22:0)/SM(d16:1/24:0)	[M+H] ⁺	787.7	184.1	25	SM(d18:1/12:0)	100
157	SM(d18:1/23:0)/SM(d17:1/24:0)	[M+H] ⁺	801.7	184.1	25	SM(d18:1/12:0)	100
158	SM(d18:1/24:0)	[M+H] ⁺	815.7	184.1	25	SM(d18:1/12:0)	100
159	SM(d18:1/24:1)	[M+H] ⁺	813.7	184.1	25	SM(d18:1/12:0)	100
160	SM(d18:2/14:0)	[M+H] ⁺	673.5	184.1	25	SM(d18:1/12:0)	100
161	SM(d18:2/16:0)	[M+H] ⁺	701.6	184.1	25	SM(d18:1/12:0)	100
162	SM(d18:2/17:0)	[M+H] ⁺	715.6	184.1	25	SM(d18:1/12:0)	100
163	SM(d18:2/18:0)	[M+H] ⁺	729.6	184.1	25	SM(d18:1/12:0)	100
164	SM(d18:2/18:1)	[M+H] ⁺	727.6	184.1	25	SM(d18:1/12:0)	100
165	SM(d18:2/20:0)	[M+H] ⁺	757.6	184.1	25	SM(d18:1/12:0)	100
166	SM(d18:2/22:0)	[M+H] ⁺	785.7	184.1	25	SM(d18:1/12:0)	100
167	SM(d18:2/23:0)	[M+H] ⁺	799.7	184.1	25	SM(d18:1/12:0)	100
168	SM(d18:2/24:0)	[M+H] ⁺	813.7	184.1	25	SM(d18:1/12:0)	100
169	SM(d19:1/24:1)	[M+H] ⁺	827.7	184.1	25	SM(d18:1/12:0)	100
170	PC(28:0)	[M+H] ⁺	678.5	184.1	21	PC(13:0/13:0)	100
171	PC(14:0_16:0)	[M+H] ⁺	706.5	184.1	21	PC(13:0/13:0)	100
172	PC(31:0) (a)	[M+H] ⁺	720.6	184.1	21	PC(13:0/13:0)	100
173	PC(31:0) (b)	[M+H] ⁺	720.6	184.1	21	PC(13:0/13:0)	100
174	PC(16:0_16:0)	[M+H] ⁺	734.6	184.1	21	PC(13:0/13:0)	100
175	PC(32:1)	[M+H] ⁺	732.6	184.1	21	PC(13:0/13:0)	100
176	PC(32:2)	[M+H] ⁺	730.5	184.1	21	PC(13:0/13:0)	100
177	PC(33:0) (a)	[M+H] ⁺	748.6	184.1	21	PC(13:0/13:0)	100
178	PC(33:0) (b)	[M+H] ⁺	748.6	184.1	21	PC(13:0/13:0)	100
179	PC(33:1)	[M+H] ⁺	746.6	184.1	21	PC(13:0/13:0)	100
180	PC(33:2)	[M+H] ⁺	744.6	184.1	21	PC(13:0/13:0)	100
181	PC(16:0_18:0)	[M+H] ⁺	762.6	184.1	21	PC(13:0/13:0)	100
182	PC(16:0_18:1)	[M+H] ⁺	760.6	184.1	21	PC(13:0/13:0)	100
183	PC(16:0_18:2)	[M+H] ⁺	758.6	184.1	21	PC(13:0/13:0)	100
184	PC(16:1_18:2)	[M+H] ⁺	756.6	184.1	21	PC(13:0/13:0)	100
185	PC(16:0_18:3) (a)	[M+H] ⁺	756.6	184.1	21	PC(13:0/13:0)	100
186	PC(16:0_18:3) (b)	[M+H] ⁺	756.6	184.1	21	PC(13:0/13:0)	100
187	PC(14:0_20:4)	[M+H] ⁺	754.5	184.1	21	PC(13:0/13:0)	100
188	PC(34:5)	[M+H] ⁺	752.5	184.1	21	PC(13:0/13:0)	100
189	PC(15-MHDA_18:1)	[M+H] ⁺	774.6	184.1	21	PC(13:0/13:0)	100
190	PC(17:0_18:1)	[M+H] ⁺	774.6	184.1	21	PC(13:0/13:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
191	PC(15-MHDA_18:2)	[M+H] ⁺	772.6	184.1	21	PC(13:0/13:0)	100
192	PC(17:0_18:2)	[M+H] ⁺	772.6	184.1	21	PC(13:0/13:0)	100
193	PC(17:1_18:2)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
194	PC(15:0_20:3)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
195	PC(15:0_20:4)	[M+H] ⁺	768.6	184.1	21	PC(13:0/13:0)	100
196	PC(35:5)	[M+H] ⁺	766.5	184.1	21	PC(13:0/13:0)	100
197	PC(18:0_18:1)	[M+H] ⁺	788.6	184.1	21	PC(13:0/13:0)	100
198	PC(18:1_18:1)	[M+H] ⁺	786.6	184.1	21	PC(13:0/13:0)	100
199	PC(18:0_18:2)	[M+H] ⁺	786.6	184.1	21	PC(13:0/13:0)	100
200	PC(18:1_18:2)	[M+H] ⁺	784.6	184.1	21	PC(13:0/13:0)	100
201	PC(16:0_20:3) (a)	[M+H] ⁺	784.6	184.1	21	PC(13:0/13:0)	100
202	PC(16:0_20:3) (b)	[M+H] ⁺	784.6	184.1	21	PC(13:0/13:0)	100
203	PC(18:2_18:2)	[M+H] ⁺	782.6	184.1	21	PC(13:0/13:0)	100
204	PC(16:0_20:4)	[M+H] ⁺	782.6	184.1	21	PC(13:0/13:0)	100
205	PC(16:1_20:4)	[M+H] ⁺	780.6	184.1	21	PC(13:0/13:0)	100
206	PC(16:0_20:5)	[M+H] ⁺	780.6	184.1	21	PC(13:0/13:0)	100
207	PC(36:6)(a)	[M+H] ⁺	778.5	184.1	21	PC(13:0/13:0)	100
208	PC(14:0_22:6)	[M+H] ⁺	778.5	184.1	21	PC(13:0/13:0)	100
209	PC(15-MHDA_20:4)	[M+H] ⁺	796.6	184.1	21	PC(13:0/13:0)	100
210	PC(17:0_20:4)	[M+H] ⁺	796.6	184.1	21	PC(13:0/13:0)	100
211	PC(15:0_22:6)	[M+H] ⁺	792.6	184.1	21	PC(13:0/13:0)	100
212	PC(38:2)	[M+H] ⁺	814.6	184.1	21	PC(13:0/13:0)	100
213	PC(18:0_20:3)	[M+H] ⁺	812.6	184.1	21	PC(13:0/13:0)	100
214	PC(18:1_20:3)	[M+H] ⁺	810.6	184.1	21	PC(13:0/13:0)	100
215	PC(38:4) (b)	[M+H] ⁺	810.6	184.1	21	PC(13:0/13:0)	100
216	PC(18:0_20:4)	[M+H] ⁺	810.6	184.1	21	PC(13:0/13:0)	100
217	PC(38:5) (a)	[M+H] ⁺	808.6	184.1	21	PC(13:0/13:0)	100
218	PC(38:5) (b)	[M+H] ⁺	808.6	184.1	21	PC(13:0/13:0)	100
219	PC(38:6) (a)	[M+H] ⁺	806.6	184.1	21	PC(13:0/13:0)	100
220	PC(16:0_22:6)	[M+H] ⁺	806.6	184.1	21	PC(13:0/13:0)	100
221	PC(18:2_20:5)	[M+H] ⁺	804.6	184.1	21	PC(13:0/13:0)	100
222	PC(16:1_22:6)	[M+H] ⁺	804.6	184.1	21	PC(13:0/13:0)	100
223	PC(38:7) (c)	[M+H] ⁺	804.6	184.1	21	PC(13:0/13:0)	100
224	PC (39:5) (a)	[M+H] ⁺	822.6	184.1	21	PC(13:0/13:0)	100
225	PC (39:5) (b)	[M+H] ⁺	822.6	184.1	21	PC(13:0/13:0)	100
226	PC(15-MHDA_22:6)	[M+H] ⁺	820.6	184.1	21	PC(13:0/13:0)	100
227	PC(17:0_22:6)	[M+H] ⁺	820.6	184.1	21	PC(13:0/13:0)	100
228	PC(18:0_22:4)	[M+H] ⁺	838.6	184.1	21	PC(13:0/13:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
229	PC(20:0_20:4)	[M+H] ⁺	838.6	184.1	21	PC(13:0/13:0)	100
230	PC(18:0_22:5) (n3)/PC(20:1_20:4)	[M+H] ⁺	836.6	184.1	21	PC(13:0/13:0)	100
231	PC(18:0_22:5) (n6)	[M+H] ⁺	836.6	184.1	21	PC(13:0/13:0)	100
232	PC(18:0_22:6)	[M+H] ⁺	834.6	184.1	21	PC(13:0/13:0)	100
233	PC(40:7) (a)	[M+H] ⁺	832.6	184.1	21	PC(13:0/13:0)	100
234	PC(18:1_22:6) (a)	[M+H] ⁺	832.6	184.1	21	PC(13:0/13:0)	100
235	PC(18:1_22:6) (b)	[M+H] ⁺	832.6	184.1	21	PC(13:0/13:0)	100
236	PC(40:10)	[M+H] ⁺	826.6	184.1	21	PC(13:0/13:0)	100
237	PC(44:12)	[M+H] ⁺	878.6	184.1	21	PC(13:0/13:0)	100
238	PC(40:8)	[M+H] ⁺	830.6	184.1	21	PC(13:0/13:0)	100
239	PC(O-16:0/16:0)	[M+H] ⁺	720.6	184.1	21	PC(13:0/13:0)	100
240	PC(O-32:1)	[M+H] ⁺	718.5	184.1	21	PC(13:0/13:0)	100
241	PC(O-32:2)	[M+H] ⁺	716.6	184.1	21	PC(13:0/13:0)	100
242	PC(O-34:1)	[M+H] ⁺	746.6	184.1	21	PC(13:0/13:0)	100
243	PC(O-34:2)	[M+H] ⁺	744.6	184.1	21	PC(13:0/13:0)	100
244	PC(O-34:4)	[M+H] ⁺	740.6	184.1	21	PC(13:0/13:0)	100
245	PC(O-35:4)	[M+H] ⁺	754.5	184.1	21	PC(13:0/13:0)	100
246	PC(O-36:0)	[M+H] ⁺	776.6	184.1	21	PC(13:0/13:0)	100
247	PC(O-18:0/18:1)	[M+H] ⁺	774.6	184.1	21	PC(13:0/13:0)	100
248	PC(O-18:1/18:1)	[M+H] ⁺	772.6	184.1	21	PC(13:0/13:0)	100
249	PC(O-18:0/18:2)	[M+H] ⁺	772.6	184.1	21	PC(13:0/13:0)	100
250	PC(O-18:1/18:2)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
251	PC(O-16:0/20:3)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
252	PC(O-16:0/20:4)	[M+H] ⁺	768.6	184.1	21	PC(13:0/13:0)	100
253	PC(O-36:5)	[M+H] ⁺	766.5	184.1	21	PC(13:0/13:0)	100
254	PC(O-18:0/20:4)	[M+H] ⁺	796.6	184.1	21	PC(13:0/13:0)	100
255	PC(O-38:5)	[M+H] ⁺	794.6	184.1	21	PC(13:0/13:0)	100
256	PC(O-16:0/22:6)	[M+H] ⁺	792.6	184.1	21	PC(13:0/13:0)	100
257	PC(O-40:5)	[M+H] ⁺	822.6	184.1	21	PC(13:0/13:0)	100
258	PC(O-18:0/22:6)	[M+H] ⁺	820.6	184.1	21	PC(13:0/13:0)	100
259	PC(O-40:7) (a)	[M+H] ⁺	818.6	184.1	21	PC(13:0/13:0)	100
260	PC(O-40:7) (b)	[M+H] ⁺	818.6	184.1	21	PC(13:0/13:0)	100
261	PC(P-16:0/14:0)	[M+H] ⁺	690.4	184.1	21	PC(13:0/13:0)	100
262	PC(P-16:0/16:0)	[M+H] ⁺	718.5	184.1	21	PC(13:0/13:0)	100
263	PC(P-16:0/16:1)	[M+H] ⁺	716.6	184.1	21	PC(13:0/13:0)	100
264	PC(P-16:0/18:0)	[M+H] ⁺	746.6	184.1	21	PC(13:0/13:0)	100
265	PC(P-16:0/18:1)	[M+H] ⁺	744.6	184.1	21	PC(13:0/13:0)	100
266	PC(P-16:0/18:2)	[M+H] ⁺	742.5	184.1	21	PC(13:0/13:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
267	PC(P-16:0/18:3)	[M+H] ⁺	740.6	184.1	21	PC(13:0/13:0)	100
268	PC(P-35:2)(a)	[M+H] ⁺	756.6	184.1	21	PC(13:0/13:0)	100
269	PC(P-35:2)(b)	[M+H] ⁺	756.6	184.1	21	PC(13:0/13:0)	100
270	PC(P-15:0/20:4) (a)	[M+H] ⁺	752.6	184.1	21	PC(13:0/13:0)	100
271	PC(P-15:0/20:4) (b)	[M+H] ⁺	752.6	184.1	21	PC(13:0/13:0)	100
272	PC(P-18:1/18:1)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
273	PC(P-18:0/18:2)	[M+H] ⁺	770.6	184.1	21	PC(13:0/13:0)	100
274	PC(P-36:3)	[M+H] ⁺	768.5	184.1	21	PC(13:0/13:0)	100
275	PC(P-16:0/20:4)	[M+H] ⁺	766.5	184.1	21	PC(13:0/13:0)	100
276	PC(P-16:0/20:5)	[M+H] ⁺	764.6	184.1	21	PC(13:0/13:0)	100
277	PC(P-17:0/20:4) (a)	[M+H] ⁺	780.5	184.1	21	PC(13:0/13:0)	100
278	PC(P-17:0/20:4) (b)	[M+H] ⁺	780.5	184.1	21	PC(13:0/13:0)	100
279	PC(P-18:0/20:4)	[M+H] ⁺	794.6	184.1	21	PC(13:0/13:0)	100
280	PC(P-38:5) (a)	[M+H] ⁺	792.6	184.1	21	PC(13:0/13:0)	100
281	PC(P-38:5) (b)	[M+H] ⁺	792.6	184.1	21	PC(13:0/13:0)	100
282	PC(P-16:0/22:6)	[M+H] ⁺	790.6	184.1	21	PC(13:0/13:0)	100
283	PC(P-20:0/20:4)	[M+H] ⁺	822.6	184.1	21	PC(13:0/13:0)	100
284	PC(P-18:0/22:5)	[M+H] ⁺	820.6	184.1	21	PC(13:0/13:0)	100
285	PC(P-18:0/22:6)	[M+H] ⁺	818.6	184.1	21	PC(13:0/13:0)	100
286	PC(P-18:1/22:6)	[M+H] ⁺	816.6	184.1	21	PC(13:0/13:0)	100
287	LPC(14:0) [sn2]	[M+H] ⁺	468.3	184.1	21	LPC(13:0)	100
288	LPC(14:0) [sn1]	[M+H] ⁺	468.3	184.1	21	LPC(13:0)	100
289	LPC(15:0) [sn2]	[M+H] ⁺	482.3	184.1	21	LPC(13:0)	100
290	LPC(15:0) [sn1]	[M+H] ⁺	482.3	184.1	21	LPC(13:0)	100
291	LPC(16:0) [sn2]	[M+H] ⁺	496.3	184.1	21	LPC(13:0)	100
292	LPC(16:0) [sn1]	[M+H] ⁺	496.3	184.1	21	LPC(13:0)	100
293	LPC(16:1) [sn2]	[M+H] ⁺	494.3	184.1	21	LPC(13:0)	100
294	LPC(16:1) [sn1]	[M+H] ⁺	494.3	184.1	21	LPC(13:0)	100
295	LPC(15-MHDA) [sn2]	[M+H] ⁺	510.4	184.1	21	LPC(13:0)	100
296	LPC(15-MHDA) [sn1] [104 sn1]	[M+H] ⁺	510.4	104.1	21	LPC(13:0)	100
297	LPC(15-MHDA) [sn1] / LPC(17:0) [sn2]	[M+H] ⁺	510.4	184.1	21	LPC(13:0)	100
298	LPC(17:0) [sn1]	[M+H] ⁺	510.4	184.1	21	LPC(13:0)	100
299	LPC(17:1) [sn2] (a)	[M+H] ⁺	508.4	184.1	21	LPC(13:0)	100
300	LPC(17:1) (a) [sn1] [104 sn1]	[M+H] ⁺	508.4	104.1	21	LPC(13:0)	100
301	LPC(17:1) [sn1] (a) / LPC(17:1) [sn2] (b)	[M+H] ⁺	508.4	184.1	21	LPC(13:0)	100
302	LPC(17:1) [sn1] (b)	[M+H] ⁺	508.4	184.1	21	LPC(13:0)	100
303	LPC(18:0) [sn2]	[M+H] ⁺	524.4	184.1	21	LPC(13:0)	100
304	LPC(18:0) [sn1]	[M+H] ⁺	524.4	184.1	21	LPC(13:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
305	LPC(18:1) [sn2]	[M+H] ⁺	522.4	184.1	21	LPC(13:0)	100
306	LPC(18:1) [sn1]	[M+H] ⁺	522.4	184.1	21	LPC(13:0)	100
307	LPC(18:2) [sn2]	[M+H] ⁺	520.3	184.1	21	LPC(13:0)	100
308	LPC(18:2) [sn1]	[M+H] ⁺	520.3	184.1	21	LPC(13:0)	100
309	LPC(18:3) [sn2] (a)	[M+H] ⁺	518.3	184.1	21	LPC(13:0)	100
310	LPC(18:3) (a) [sn1] [104 sn1]	[M+H] ⁺	518.3	104.1	21	LPC(13:0)	100
311	LPC(18:3) [sn1] (a)/LPC(18:3) [sn2] (b)	[M+H] ⁺	518.3	184.1	21	LPC(13:0)	100
312	LPC(18:3) [sn1] (b)	[M+H] ⁺	518.3	184.1	21	LPC(13:0)	100
313	LPC(19:0) [sn2] (a)	[M+H] ⁺	538.4	184.1	21	LPC(13:0)	100
314	LPC(19:0) (a) [sn1] [104 sn1]	[M+H] ⁺	538.4	104.1	21	LPC(13:0)	100
315	LPC(19:0) [sn1] (a) / LPC(19:0) [sn2] (b)	[M+H] ⁺	538.4	184.1	21	LPC(13:0)	100
316	LPC(19:0) [sn1] (b)	[M+H] ⁺	538.4	184.1	21	LPC(13:0)	100
317	LPC(19:1) (a)	[M+H] ⁺	536.4	184.1	21	LPC(13:0)	100
318	LPC(19:1) (b)	[M+H] ⁺	536.4	184.1	21	LPC(13:0)	100
319	LPC(19:1) (c)	[M+H] ⁺	536.4	184.1	21	LPC(13:0)	100
320	LPC(20:0) [sn2]	[M+H] ⁺	552.4	184.1	21	LPC(13:0)	100
321	LPC(20:0) [sn1]	[M+H] ⁺	552.4	184.1	21	LPC(13:0)	100
322	LPC(20:1) [sn2]	[M+H] ⁺	550.4	184.1	21	LPC(13:0)	100
323	LPC(20:1) [sn1]	[M+H] ⁺	550.4	184.1	21	LPC(13:0)	100
324	LPC(20:2) [sn2]	[M+H] ⁺	548.4	184.1	21	LPC(13:0)	100
325	LPC(20:2) [sn1]	[M+H] ⁺	548.4	184.1	21	LPC(13:0)	100
326	LPC(20:3) [sn2]	[M+H] ⁺	546.4	184.1	21	LPC(13:0)	100
327	LPC(20:3) [sn1]	[M+H] ⁺	546.4	184.1	21	LPC(13:0)	100
328	LPC(20:4) [sn2]	[M+H] ⁺	544.3	184.1	21	LPC(13:0)	100
329	LPC(20:4) [sn1]	[M+H] ⁺	544.3	184.1	21	LPC(13:0)	100
330	LPC(20:5) [sn2]	[M+H] ⁺	542.3	184.1	21	LPC(13:0)	100
331	LPC(20:5) [sn1]	[M+H] ⁺	542.3	184.1	21	LPC(13:0)	100
332	LPC(22:0) [sn2]	[M+H] ⁺	580.4	184.1	21	LPC(13:0)	100
333	LPC(22:0) [sn1]	[M+H] ⁺	580.4	184.1	21	LPC(13:0)	100
334	LPC(22:1) [sn2]	[M+H] ⁺	578.4	184.1	21	LPC(13:0)	100
335	LPC(22:1) [sn1]	[M+H] ⁺	578.4	184.1	21	LPC(13:0)	100
336	LPC(22:4) [sn2]	[M+H] ⁺	572.4	184.1	21	LPC(13:0)	100
337	LPC(22:4) [sn1]	[M+H] ⁺	572.4	184.1	21	LPC(13:0)	100
338	LPC(22:5) [sn2] (n3)	[M+H] ⁺	570.4	184.1	21	LPC(13:0)	100
339	LPC(22:5) (n3) [sn1] [104 sn1]	[M+H] ⁺	570.4	104.1	21	LPC(13:0)	100
340	LPC(22:5) [sn1] (n3)/LPC(22:5) [sn2] (n6)	[M+H] ⁺	570.4	184.1	21	LPC(13:0)	100
341	LPC(22:5) [sn1] (n6)	[M+H] ⁺	570.4	184.1	21	LPC(13:0)	100
342	LPC(22:6) [sn2]	[M+H] ⁺	568.3	184.1	21	LPC(13:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
343	LPC(22:6) [sn1]	[M+H] ⁺	568.3	184.1	21	LPC(13:0)	100
344	LPC(24:0) [sn2]	[M+H] ⁺	608.5	184.1	21	LPC(13:0)	100
345	LPC(24:0) [sn1]	[M+H] ⁺	608.5	184.1	21	LPC(13:0)	100
346	LPC(26:0) [sn2]	[M+H] ⁺	636.5	184.1	21	LPC(13:0)	100
347	LPC(26:0) [sn1]	[M+H] ⁺	636.5	184.1	21	LPC(13:0)	100
348	LPC(O-16:0)	[M+H] ⁺	482.4	104.1	21	LPC(13:0)	100
349	LPC(O-18:0)	[M+H] ⁺	510.4	104.1	21	LPC(13:0)	100
350	LPC(O-18:1)	[M+H] ⁺	508.4	104.1	21	LPC(13:0)	100
351	LPC(O-20:0)	[M+H] ⁺	538.4	104.1	21	LPC(13:0)	100
352	LPC(O-20:1)	[M+H] ⁺	536.4	104.1	21	LPC(13:0)	100
353	LPC(O-22:0)	[M+H] ⁺	566.5	104.1	21	LPC(13:0)	100
354	LPC(O-22:1)	[M+H] ⁺	564.4	104.1	21	LPC(13:0)	100
355	LPC(O-24:0)	[M+H] ⁺	594.5	104.1	21	LPC(13:0)	100
356	LPC(O-24:1)	[M+H] ⁺	592.5	104.1	21	LPC(13:0)	100
357	LPC(O-24:2)	[M+H] ⁺	590.5	104.1	21	LPC(13:0)	100
358	LPC(P-16:0)	[M+H] ⁺	480.3	104.1	21	LPC(13:0)	100
359	LPC(P-17:0) (a)	[M+H] ⁺	494.3	104.1	21	LPC(13:0)	100
360	LPC(P-17:0) (b)	[M+H] ⁺	494.3	104.1	21	LPC(13:0)	100
361	LPC(P-18:0)	[M+H] ⁺	508.3	104.1	21	LPC(13:0)	100
362	LPC(P-18:1)	[M+H] ⁺	506.3	104.1	21	LPC(13:0)	100
363	LPC(P-20:0)	[M+H] ⁺	536.3	104.1	21	LPC(13:0)	100
364	PE(16:0_16:0)	[M+H] ⁺	692.5	551.5	17	PE(17:0/17:0)	100
365	PE(16:0_16:1)	[M+H] ⁺	690.5	549.5	17	PE(17:0/17:0)	100
366	PE(16:0_18:1)	[M+H] ⁺	718.5	577.5	17	PE(17:0/17:0)	100
367	PE(16:0_18:2)	[M+H] ⁺	716.5	575.5	17	PE(17:0/17:0)	100
368	PE(16:1_18:2)	[M+H] ⁺	714.5	573.5	17	PE(17:0/17:0)	100
369	PE(16:0_18:3) (a)	[M+H] ⁺	714.5	573.5	17	PE(17:0/17:0)	100
370	PE(16:0_18:3) (b)	[M+H] ⁺	714.5	573.5	17	PE(17:0/17:0)	100
371	PE(15-MHDA_18:1)	[M+H] ⁺	732.6	591.5	17	PE(17:0/17:0)	100
372	PE(17:0_18:1)	[M+H] ⁺	732.6	591.5	17	PE(17:0/17:0)	100
373	PE(15-MHDA_18:2)	[M+H] ⁺	730.5	589.5	17	PE(17:0/17:0)	100
374	PE(17:0_18:2)	[M+H] ⁺	730.5	589.5	17	PE(17:0/17:0)	100
375	PE(36:0)	[M+H] ⁺	748.6	607.6	17	PE(17:0/17:0)	100
376	PE(18:0_18:1)	[M+H] ⁺	746.6	605.6	17	PE(17:0/17:0)	100
377	PE(18:1_18:1)	[M+H] ⁺	744.6	603.5	17	PE(17:0/17:0)	100
378	PE(18:0_18:2)	[M+H] ⁺	744.6	603.5	17	PE(17:0/17:0)	100
379	PE(18:1_18:2)	[M+H] ⁺	742.5	601.5	17	PE(17:0/17:0)	100
380	PE(16:0_20:3)	[M+H] ⁺	742.5	601.5	17	PE(17:0/17:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
381	PE(16:0_20:4)	[M+H] ⁺	740.5	599.5	17	PE(17:0/17:0)	100
382	PE(16:1_20:4)	[M+H] ⁺	738.5	597.5	17	PE(17:0/17:0)	100
383	PE(16:0_20:5)	[M+H] ⁺	738.5	597.5	17	PE(17:0/17:0)	100
384	PE(15-MHDA_20:4)	[M+H] ⁺	754.6	613.5	17	PE(17:0/17:0)	100
385	PE(17:0_20:4)	[M+H] ⁺	754.6	613.5	17	PE(17:0/17:0)	100
386	PE(18:0_20:3) (a)	[M+H] ⁺	770.6	629.6	17	PE(17:0/17:0)	100
387	PE(18:0_20:3) (b)	[M+H] ⁺	770.6	629.6	17	PE(17:0/17:0)	100
388	PE(18:0_20:4)	[M+H] ⁺	768.6	627.5	17	PE(17:0/17:0)	100
389	PE(38:5) (a)	[M+H] ⁺	766.5	625.5	17	PE(17:0/17:0)	100
390	PE(38:5) (b)	[M+H] ⁺	766.5	625.5	17	PE(17:0/17:0)	100
391	PE(16:0_22:6)	[M+H] ⁺	764.5	623.5	17	PE(17:0/17:0)	100
392	PE(15-MHDA_22:6)	[M+H] ⁺	778.5	637.5	17	PE(17:0/17:0)	100
393	PE(17:0_22:6)	[M+H] ⁺	778.5	637.5	17	PE(17:0/17:0)	100
394	PE(18:0_22:4)	[M+H] ⁺	796.6	655.6	17	PE(17:0/17:0)	100
395	PE(20:0_20:4)	[M+H] ⁺	796.6	655.6	17	PE(17:0/17:0)	100
396	PE(18:0_22:5) (n3)	[M+H] ⁺	794.6	653.6	17	PE(17:0/17:0)	100
397	PE(18:0_22:5) (n6)	[M+H] ⁺	794.6	653.6	17	PE(17:0/17:0)	100
398	PE(18:0_22:6)	[M+H] ⁺	792.6	651.5	17	PE(17:0/17:0)	100
399	PE(18:1_22:6) (a)	[M+H] ⁺	790.5	649.5	17	PE(17:0/17:0)	100
400	PE(18:1_22:6) (b)	[M+H] ⁺	790.5	649.5	17	PE(17:0/17:0)	100
401	PE(O-34:1)	[M+H] ⁺	704.6	563.5	17	PE(17:0/17:0)	100
402	PE(O-16:0/18:2)	[M+H] ⁺	702.5	561.5	17	PE(17:0/17:0)	100
403	PE(O-18:1/18:2)	[M+H] ⁺	728.6	587.5	17	PE(17:0/17:0)	100
404	PE(O-16:0/20:3)	[M+H] ⁺	728.6	587.5	17	PE(17:0/17:0)	100
405	PE(O-16:0/20:4)	[M+H] ⁺	726.5	585.5	17	PE(17:0/17:0)	100
406	PE(O-36:5)	[M+H] ⁺	724.5	583.5	17	PE(17:0/17:0)	100
407	PE(O-16:0/22:4)	[M+H] ⁺	754.6	613.6	17	PE(17:0/17:0)	100
408	PE(O-18:0/20:4)	[M+H] ⁺	754.6	613.6	17	PE(17:0/17:0)	100
409	PE(O-38:5) (a)	[M+H] ⁺	752.6	611.5	17	PE(17:0/17:0)	100
410	PE(O-38:5) (b)	[M+H] ⁺	752.6	611.5	17	PE(17:0/17:0)	100
411	PE(O-16:0/22:6)	[M+H] ⁺	750.6	609.5	17	PE(17:0/17:0)	100
412	PE(O-18:0/22:5) (a)	[M+H] ⁺	780.6	639.6	17	PE(17:0/17:0)	100
413	PE(O-18:0/22:6)	[M+H] ⁺	778.5	637.5	17	PE(17:0/17:0)	100
414	PE(O-18:1/22:6)	[M+H] ⁺	776.6	635.5	17	PE(17:0/17:0)	100
415	PE(P-15:0/20:4) (a)	[M+H] ⁺	710.5	361.3	17	PE(17:0/17:0)	100
416	PE(P-15:0/20:4) (b)	[M+H] ⁺	710.5	361.3	17	PE(17:0/17:0)	100
417	PE(P-15:0/22:6) (a)	[M+H] ⁺	734.5	385.3	17	PE(17:0/17:0)	100
418	PE(P-15:0/22:6) (b)	[M+H] ⁺	734.5	385.3	17	PE(17:0/17:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
419	PE(P-16:0/18:1)	[M+H] ⁺	702.5	339.3	17	PE(17:0/17:0)	100
420	PE(P-16:0/18:2)	[M+H] ⁺	700.5	337.3	17	PE(17:0/17:0)	100
421	PE(P-16:0/18:3)	[M+H] ⁺	698.5	335.3	17	PE(17:0/17:0)	100
422	PE(P-16:0/20:3) (a)	[M+H] ⁺	726.5	363.3	17	PE(17:0/17:0)	100
423	PE(P-16:0/20:3) (b)	[M+H] ⁺	726.5	363.3	17	PE(17:0/17:0)	100
424	PE(P-16:0/20:4)	[M+H] ⁺	724.5	361.3	17	PE(17:0/17:0)	100
425	PE(P-16:0/20:5)	[M+H] ⁺	722.5	359.3	17	PE(17:0/17:0)	100
426	PE(P-16:0/22:4)	[M+H] ⁺	752.6	389.3	17	PE(17:0/17:0)	100
427	PE(P-16:0/22:5) (n3)	[M+H] ⁺	750.5	387.3	17	PE(17:0/17:0)	100
428	PE(P-16:0/22:5) (n6)	[M+H] ⁺	750.5	387.3	17	PE(17:0/17:0)	100
429	PE(P-16:0/22:6)	[M+H] ⁺	748.5	385.3	17	PE(17:0/17:0)	100
430	PE(P-17:0/20:4) (a)	[M+H] ⁺	738.6	361.3	17	PE(17:0/17:0)	100
431	PE(P-17:0/20:4) (b)	[M+H] ⁺	738.6	361.3	17	PE(17:0/17:0)	100
432	PE(P-17:0/22:6) (a)	[M+H] ⁺	762.6	385.3	17	PE(17:0/17:0)	100
433	PE(P-17:0/22:6) (b)	[M+H] ⁺	762.6	385.3	17	PE(17:0/17:0)	100
434	PE(P-18:0/18:1)	[M+H] ⁺	730.6	339.3	17	PE(17:0/17:0)	100
435	PE(P-18:0/18:2)	[M+H] ⁺	728.6	337.3	17	PE(17:0/17:0)	100
436	PE(P-18:0/18:3)	[M+H] ⁺	726.5	335.3	17	PE(17:0/17:0)	100
437	PE(P-18:0/20:3) (a)	[M+H] ⁺	754.5	363.3	17	PE(17:0/17:0)	100
438	PE(P-18:0/20:3) (b)	[M+H] ⁺	754.5	363.3	17	PE(17:0/17:0)	100
439	PE(P-18:0/20:4)	[M+H] ⁺	752.6	361.3	17	PE(17:0/17:0)	100
440	PE(P-18:0/20:5)	[M+H] ⁺	750.5	359.3	17	PE(17:0/17:0)	100
441	PE(P-18:0/22:4)	[M+H] ⁺	780.6	389.3	17	PE(17:0/17:0)	100
442	PE(P-18:0/22:5) (n3)	[M+H] ⁺	778.5	387.3	17	PE(17:0/17:0)	100
443	PE(P-18:0/22:5) (n6)	[M+H] ⁺	778.5	387.3	17	PE(17:0/17:0)	100
444	PE(P-18:0/22:6)	[M+H] ⁺	776.6	385.3	17	PE(17:0/17:0)	100
445	PE(P-18:1/18:1) (a)	[M+H] ⁺	728.6	339.3	17	PE(17:0/17:0)	100
446	PE(P-18:1/18:1) (b)	[M+H] ⁺	728.6	339.3	17	PE(17:0/17:0)	100
447	PE(P-18:1/18:2) (a)	[M+H] ⁺	726.5	337.3	17	PE(17:0/17:0)	100
448	PE(P-18:1/18:2) (b)	[M+H] ⁺	726.5	337.3	17	PE(17:0/17:0)	100
449	PE(P-18:1/18:3)	[M+H] ⁺	724.5	335.3	17	PE(17:0/17:0)	100
450	PE(P-18:1/20:3) (a)	[M+H] ⁺	752.5	363.3	17	PE(17:0/17:0)	100
451	PE(P-18:1/20:3) (b)	[M+H] ⁺	752.5	363.3	17	PE(17:0/17:0)	100
452	PE(P-18:1/20:4) (a)	[M+H] ⁺	750.5	361.3	17	PE(17:0/17:0)	100
453	PE(P-18:1/20:4) (b)	[M+H] ⁺	750.5	361.3	17	PE(17:0/17:0)	100
454	PE(P-18:1/20:5) (a)	[M+H] ⁺	748.5	359.3	17	PE(17:0/17:0)	100
455	PE(P-18:1/20:5) (b)	[M+H] ⁺	748.5	359.3	17	PE(17:0/17:0)	100
456	PE(P-18:1/22:4)	[M+H] ⁺	778.5	389.3	17	PE(17:0/17:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
457	PE(P-18:1/22:5) (a)	[M+H] ⁺	776.6	387.3	17	PE(17:0/17:0)	100
458	PE(P-18:1/22:5) (b)	[M+H] ⁺	776.6	387.3	17	PE(17:0/17:0)	100
459	PE(P-18:1/22:6) (a)	[M+H] ⁺	774.5	385.3	17	PE(17:0/17:0)	100
460	PE(P-18:1/22:6) (b)	[M+H] ⁺	774.5	385.3	17	PE(17:0/17:0)	100
461	PE(P-19:0/20:4) (a)	[M+H] ⁺	766.6	361.3	17	PE(17:0/17:0)	100
462	PE(P-19:0/20:4) (b)	[M+H] ⁺	766.6	361.3	17	PE(17:0/17:0)	100
463	PE(P-20:0/18:1)	[M+H] ⁺	758.6	339.3	17	PE(17:0/17:0)	100
464	PE(P-20:0/18:2)	[M+H] ⁺	756.6	337.3	17	PE(17:0/17:0)	100
465	PE(P-20:0/20:4)	[M+H] ⁺	780.6	361.3	17	PE(17:0/17:0)	100
466	PE(P-20:0/22:6)	[M+H] ⁺	804.6	385.3	17	PE(17:0/17:0)	100
467	PE(P-20:1/20:4)	[M+H] ⁺	778.5	361.3	17	PE(17:0/17:0)	100
468	PE(P-20:1/22:6) (a)	[M+H] ⁺	802.6	385.3	17	PE(17:0/17:0)	100
469	PE(P-20:1/22:6) (b)	[M+H] ⁺	802.6	385.3	17	PE(17:0/17:0)	100
470	LPE(16:0) [sn2]	[M+H] ⁺	454.3	313.3	17	LPE(14:0)	100
471	LPE(16:0) [sn1]	[M+H] ⁺	454.3	313.3	17	LPE(14:0)	100
472	LPE(17:0) [sn2]	[M+H] ⁺	468.3	327.3	17	LPE(14:0)	100
473	LPE(17:0) [sn1]	[M+H] ⁺	468.3	327.3	17	LPE(14:0)	100
474	LPE(18:0) [sn2]	[M+H] ⁺	482.3	341.3	17	LPE(14:0)	100
475	LPE(18:0) [sn1]	[M+H] ⁺	482.3	341.3	17	LPE(14:0)	100
476	LPE(18:1) [sn2]	[M+H] ⁺	480.3	339.3	17	LPE(14:0)	100
477	LPE(18:1) [sn1]	[M+H] ⁺	480.3	339.3	17	LPE(14:0)	100
478	LPE(18:2) [sn2]	[M+H] ⁺	478.3	337.3	17	LPE(14:0)	100
479	LPE(18:2) [sn1]	[M+H] ⁺	478.3	337.3	17	LPE(14:0)	100
480	LPE(20:4) [sn2]	[M+H] ⁺	502.3	361.3	17	LPE(14:0)	100
481	LPE(20:4) [sn1]	[M+H] ⁺	502.3	361.3	17	LPE(14:0)	100
482	LPE(22:6) [sn2]	[M+H] ⁺	526.3	385.3	17	LPE(14:0)	100
483	LPE(22:6) [sn1]	[M+H] ⁺	526.3	385.3	17	LPE(14:0)	100
484	LPE(P-16:0)	[M+H] ⁺	438.3	266.4	19	LPE(14:0)	100
485	LPE(P-18:0)	[M+H] ⁺	466.3	294.4	19	LPE(14:0)	100
486	LPE(P-18:1)	[M+H] ⁺	464.3	292.4	19	LPE(14:0)	100
487	LPE(P-20:0)	[M+H] ⁺	494.3	322.4	19	LPE(14:0)	100
488	PI(16:0/16:0)	[M+NH ₄] ⁺	828.6	551.6	17	PE(17:0/17:0)	100
489	PI(16:0 16:1)	[M+NH ₄] ⁺	826.5	549.5	17	PE(17:0/17:0)	100
490	PI(34:0)	[M+NH ₄] ⁺	856.6	579.6	17	PE(17:0/17:0)	100
491	PI(34:1)	[M+NH ₄] ⁺	854.6	577.6	17	PE(17:0/17:0)	100
492	PI(17:0 18:1) (a+b)	[M+NH ₄] ⁺	868.6	591.6	17	PE(17:0/17:0)	100
493	PI(17:0 18:2) (a+b)	[M+NH ₄] ⁺	866.6	589.6	17	PE(17:0/17:0)	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
494	PI(18:0_18:1)	[M+NH ₄] ⁺	882.6	605.6	17	PE(17:0/17:0)	100
495	PI(36:2) (a+b)	[M+NH ₄] ⁺	880.6	603.6	17	PE(17:0/17:0)	100
496	PI(18:1/18:2)	[M+NH ₄] ⁺	878.6	601.6	17	PE(17:0/17:0)	100
497	PI(16:0/20:3) (a)	[M+NH ₄] ⁺	878.6	601.6	17	PE(17:0/17:0)	100
498	PI(16:0/20:3) (b)	[M+NH ₄] ⁺	878.6	601.6	17	PE(17:0/17:0)	100
499	PI(16:0_20:4)	[M+NH ₄] ⁺	876.6	599.6	17	PE(17:0/17:0)	100
500	PI(17:0_20:4) (a+b)	[M+NH ₄] ⁺	890.6	613.6	17	PE(17:0/17:0)	100
501	PI(37:6)	[M+NH ₄] ⁺	886.6	609.6	17	PE(17:0/17:0)	100
502	PI(18:0/20:2)	[M+NH ₄] ⁺	908.6	631.6	17	PE(17:0/17:0)	100
503	PI(18:0_20:3) (a)	[M+NH ₄] ⁺	906.6	629.6	17	PE(17:0/17:0)	100
504	PI(18:0_20:3) (b)	[M+NH ₄] ⁺	906.6	629.6	17	PE(17:0/17:0)	100
505	PI(18:0_20:4)	[M+NH ₄] ⁺	904.6	627.6	17	PE(17:0/17:0)	100
506	PI(38:5) (a)	[M+NH ₄] ⁺	902.6	625.6	17	PE(17:0/17:0)	100
507	PI(38:5) (b)	[M+NH ₄] ⁺	902.6	625.6	17	PE(17:0/17:0)	100
508	PI(38:6)	[M+NH ₄] ⁺	900.6	623.6	17	PE(17:0/17:0)	100
509	PI(39:6) (a+b)	[M+NH ₄] ⁺	914.6	637.6	17	PE(17:0/17:0)	100
510	PI(18:0_22:4)	[M+NH ₄] ⁺	932.6	655.6	17	PE(17:0/17:0)	100
511	PI(20:0_20:4)	[M+NH ₄] ⁺	932.6	655.6	17	PE(17:0/17:0)	100
512	PI(18:0_22:5) (n3)	[M+NH ₄] ⁺	930.6	653.6	17	PE(17:0/17:0)	100
513	PI(18:0_22:5) (n6)	[M+NH ₄] ⁺	930.6	653.6	17	PE(17:0/17:0)	100
514	PI(18:0_22:6)	[M+NH ₄] ⁺	928.6	651.6	17	PE(17:0/17:0)	100
515	LPI(18:0) [sn2]	[M+NH ₄] ⁺	618.3	341.3	17	LPI(13:0)	20
516	LPI(18:0) [sn1]	[M+NH ₄] ⁺	618.3	341.3	17	LPI(13:0)	20
517	LPI(18:1) [sn2]	[M+NH ₄] ⁺	616.3	339.3	17	LPI(13:0)	20
518	LPI(18:1) [sn1]	[M+NH ₄] ⁺	616.3	339.3	17	LPI(13:0)	20
519	LPI(18:2) [sn2]	[M+NH ₄] ⁺	614.3	337.3	17	LPI(13:0)	20
520	LPI(18:2) [sn1]	[M+NH ₄] ⁺	614.3	337.3	17	LPI(13:0)	20
521	LPI(20:4) [sn2]	[M+NH ₄] ⁺	638.3	361.3	17	LPI(13:0)	20
522	LPI(20:4) [sn1]	[M+NH ₄] ⁺	638.3	361.3	17	LPI(13:0)	20
523	PS(36:1)	[M+H] ⁺	790.6	605.6	25	PS(17:0/17:0)	50
524	PS(36:2)	[M+H] ⁺	788.5	603.5	25	PS(17:0/17:0)	50
525	PS(38:3)	[M+H] ⁺	814.6	629.6	25	PS(17:0/17:0)	50
526	PS(38:4)	[M+H] ⁺	812.5	627.5	25	PS(17:0/17:0)	50
527	PS(38:5)	[M+H] ⁺	810.5	625.5	25	PS(17:0/17:0)	50

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
528	PS(40:5)	[M+H] ⁺	838.6	653.6	25	PS(17:0/17:0)	50
529	PS(40:6)	[M+H] ⁺	836.5	651.5	25	PS(17:0/17:0)	50
530	PG(34:1)	[M+NH ₄] ⁺	766.6	577.5	21	PG(17:0/17:0)	50
531	PG(34:2)	[M+NH ₄] ⁺	764.6	575.5	21	PG(17:0/17:0)	50
532	PG(36:1)	[M+NH ₄] ⁺	794.6	605.6	21	PG(17:0/17:0)	50
533	PG(36:2)	[M+NH ₄] ⁺	792.6	603.5	21	PG(17:0/17:0)	50
534	CE(14:0)	[M+NH ₄] ⁺	614.6	369.3	10	CE(18:0) d6	1000
535	CE(15:0)	[M+NH ₄] ⁺	628.6	369.3	10	CE(18:0) d6	1000
536	CE(16:0)	[M+NH ₄] ⁺	642.6	369.3	10	CE(18:0) d6	1000
537	CE(16:1)	[M+NH ₄] ⁺	640.6	369.3	10	CE(18:0) d6	1000
538	CE(16:2)	[M+NH ₄] ⁺	638.6	369.3	10	CE(18:0) d6	1000
539	CE(17:0)	[M+NH ₄] ⁺	656.6	369.3	10	CE(18:0) d6	1000
540	CE(17:1)	[M+NH ₄] ⁺	654.6	369.3	10	CE(18:0) d6	1000
541	CE(18:0)	[M+NH ₄] ⁺	670.7	369.3	10	CE(18:0) d6	1000
542	CE(18:1)	[M+NH ₄] ⁺	668.6	369.3	10	CE(18:0) d6	1000
543	CE(18:2)	[M+NH ₄] ⁺	666.6	369.3	10	CE(18:0) d6	1000
544	CE(18:3)	[M+NH ₄] ⁺	664.6	369.3	10	CE(18:0) d6	1000
545	CE(20:1)	[M+NH ₄] ⁺	696.7	369.3	10	CE(18:0) d6	1000
546	CE(20:2)	[M+NH ₄] ⁺	694.7	369.3	10	CE(18:0) d6	1000
547	CE(20:3)	[M+NH ₄] ⁺	692.6	369.3	10	CE(18:0) d6	1000
548	CE(20:4)	[M+NH ₄] ⁺	690.6	369.3	10	CE(18:0) d6	1000
549	CE(20:5)	[M+NH ₄] ⁺	688.6	369.3	10	CE(18:0) d6	1000
550	CE(22:0)	[M+NH ₄] ⁺	726.7	369.3	10	CE(18:0) d6	1000
551	CE(22:1)	[M+NH ₄] ⁺	724.7	369.3	10	CE(18:0) d6	1000
552	CE(22:4)	[M+NH ₄] ⁺	718.7	369.3	10	CE(18:0) d6	1000
553	CE(22:5) (n3)	[M+NH ₄] ⁺	716.6	369.3	10	CE(18:0) d6	1000
554	CE(22:5) (n6)	[M+NH ₄] ⁺	716.6	369.3	10	CE(18:0) d6	1000
555	CE(22:6)	[M+NH ₄] ⁺	714.6	369.3	10	CE(18:0) d6	1000
556	CE(24:0)	[M+NH ₄] ⁺	754.7	369.3	10	CE(18:0) d6	1000
557	CE(24:1)	[M+NH ₄] ⁺	752.7	369.3	10	CE(18:0) d6	1000
558	CE(24:4)	[M+NH ₄] ⁺	746.7	369.3	10	CE(18:0) d6	1000
559	CE(24:5)	[M+NH ₄] ⁺	744.7	369.3	10	CE(18:0) d6	1000
560	CE(24:6)	[M+NH ₄] ⁺	742.7	369.3	10	CE(18:0) d6	1000
561	COH	[M+NH ₄] ⁺	369.4	161.2	23	COH d7	10000

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
562	DE(16:0)	[M+NH ₄] ⁺	640.8	367.4	23	CE(18:0) d6	1000
563	DE(18:1)	[M+NH ₄] ⁺	666.8	367.4	23	CE(18:0) d6	1000
564	DE(18:2)	[M+NH ₄] ⁺	664.8	367.4	23	CE(18:0) d6	1000
565	DE(20:4)	[M+NH ₄] ⁺	688.8	367.4	23	CE(18:0) d6	1000
566	DE(20:5)	[M+NH ₄] ⁺	686.8	367.4	23	CE(18:0) d6	1000
567	DE(22:6)	[M+NH ₄] ⁺	712.8	367.4	23	CE(18:0) d6	1000
568	Acylcarnitine(12:0)	[M+H] ⁺	344.3	85.1	30	AcylCarnitine 16:0 d3	10
569	Acylcarnitine(13:0)	[M+H] ⁺	358.3	85.1	30	AcylCarnitine 16:0 d4	11
570	Acylcarnitine(14:0)	[M+H] ⁺	372.3	85.1	30	AcylCarnitine 16:0 d5	12
571	Acylcarnitine(14:1)	[M+H] ⁺	370.3	85.1	30	AcylCarnitine 16:0 d6	13
572	Acylcarnitine(14:2)	[M+H] ⁺	368.3	85.1	30	AcylCarnitine 16:0 d7	14
573	Acylcarnitine(15:0) (a)	[M+H] ⁺	386.3	85.1	30	AcylCarnitine 16:0 d8	15
574	Acylcarnitine(15:0) (b)	[M+H] ⁺	386.3	85.1	30	AcylCarnitine 16:0 d9	16
575	Acylcarnitine(16:0)	[M+H] ⁺	400.4	85.1	30	AcylCarnitine 16:0 d10	17
576	Acylcarnitine(16:1)	[M+H] ⁺	398.3	85.1	30	AcylCarnitine 16:0 d11	18
577	Acylcarnitine(17:0) (a)	[M+H] ⁺	414.4	85.1	30	AcylCarnitine 16:0 d12	19
578	Acylcarnitine(17:0) (b)	[M+H] ⁺	414.4	85.1	30	AcylCarnitine 16:0 d13	20
579	Acylcarnitine(18:0)	[M+H] ⁺	428.4	85.1	30	AcylCarnitine 16:0 d14	21
580	Acylcarnitine(18:1)	[M+H] ⁺	426.4	85.1	30	AcylCarnitine 16:0 d15	22
581	Acylcarnitine(18:2)	[M+H] ⁺	424.3	85.1	30	AcylCarnitine 16:0 d16	23
582	DG(14:0_16:0)	[M+NH ₄] ⁺	558.5	313.3	21	DG(15:0/15:0)	200
583	DG(16:0_16:0)	[M+NH ₄] ⁺	586.5	313.2	21	DG(15:0/15:0)	200
584	DG(16:0_16:1)	[M+NH ₄] ⁺	584.5	313.2	21	DG(15:0/15:0)	200
585	DG(14:0_18:2)	[M+NH ₄] ⁺	582.5	285.2	21	DG(15:0/15:0)	200
586	DG(16:0_18:1)	[M+NH ₄] ⁺	612.6	313.3	21	DG(15:0/15:0)	200
587	DG(16:1_18:1)	[M+NH ₄] ⁺	610.5	339.2	21	DG(15:0/15:0)	200
588	DG(16:0_18:2)	[M+NH ₄] ⁺	610.5	313.2	21	DG(15:0/15:0)	200
589	DG(18:0_18:1)	[M+NH ₄] ⁺	640.6	341.3	21	DG(15:0/15:0)	200
590	DG(18:1_18:1)	[M+NH ₄] ⁺	638.6	339.3	21	DG(15:0/15:0)	200
591	DG(18:0_18:2)	[M+NH ₄] ⁺	638.6	341.3	21	DG(15:0/15:0)	200
592	DG(18:1_18:2)	[M+NH ₄] ⁺	636.6	339.3	21	DG(15:0/15:0)	200
593	DG(18:2_18:2)	[M+NH ₄] ⁺	634.5	337.2	21	DG(15:0/15:0)	200
594	DG(18:1_18:3)	[M+NH ₄] ⁺	634.5	339.2	21	DG(15:0/15:0)	200
595	DG(16:0_20:4)	[M+NH ₄] ⁺	634.5	313.2	21	DG(15:0/15:0)	200
596	DG(18:1_20:3)	[M+NH ₄] ⁺	662.6	339.3	21	DG(15:0/15:0)	200

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
597	DG(18:0_20:4)	[M+NH ₄] ⁺	662.6	341.3	21	DG(15:0/15:0)	200
598	DG(18:1_20:4)	[M+NH ₄] ⁺	660.6	339.3	21	DG(15:0/15:0)	200
599	DG(16:0_22:5)	[M+NH ₄] ⁺	660.6	313.3	21	DG(15:0/15:0)	200
600	DG(18:2_20:4)	[M+NH ₄] ⁺	658.5	337.2	21	DG(15:0/15:0)	200
601	DG(16:0_22:6)	[M+NH ₄] ⁺	658.5	313.2	21	DG(15:0/15:0)	100
602	DG(18:1_20:5)	[M+NH ₄] ⁺	658.6	339.3	21	DG(15:0/15:0)	100
603	DG(18:1_22:5)	[M+NH ₄] ⁺	686.6	339.3	21	DG(15:0/15:0)	100
604	DG(18:0_22:6)	[M+NH ₄] ⁺	686.6	341.3	21	DG(15:0/15:0)	100
605	DG(18:1_22:6)	[M+NH ₄] ⁺	684.6	339.3	21	DG(15:0/15:0)	100
606	DG(18:2_22:6)	[M+NH ₄] ⁺	682.6	337.3	21	DG(15:0/15:0)	100
607	TG(48:0) [NL-16:0]	[M+NH ₄] ⁺	824.8	551.5	21	TG(51:0) [NL-17:0]	100
608	TG(48:0) [NL-18:0]	[M+NH ₄] ⁺	824.8	523.5	21	TG(51:0) [NL-17:0]	100
609	TG(48:0) [SIM]	[M+NH ₄] ⁺	824.8	824.8	21	TG(51:0) [SIM]	100
610	TG(48:1) [NL-16:1]	[M+NH ₄] ⁺	822.8	551.5	21	TG(51:0) [NL-17:0]	100
611	TG(48:1) [NL-18:1]	[M+NH ₄] ⁺	822.8	523.5	21	TG(51:0) [NL-17:0]	100
612	TG(48:1) [SIM]	[M+NH ₄] ⁺	822.8	822.8	21	TG(51:0) [SIM]	100
613	TG(48:2) [NL-14:0]	[M+NH ₄] ⁺	820.8	575.5	21	TG(51:0) [NL-17:0]	100
614	TG(48:2) [NL-14:1]	[M+NH ₄] ⁺	820.8	577.5	21	TG(51:0) [NL-17:0]	100
615	TG(48:2) [NL-16:1]	[M+NH ₄] ⁺	820.8	549.5	21	TG(51:0) [NL-17:0]	100
616	TG(48:2) [NL-18:2]	[M+NH ₄] ⁺	820.8	523.5	21	TG(51:0) [NL-17:0]	100
617	TG(48:2) [SIM]	[M+NH ₄] ⁺	820.8	820.8	21	TG(51:0) [SIM]	100
618	TG(48:3) [NL-14:0]	[M+NH ₄] ⁺	818.8	573.5	21	TG(51:0) [NL-17:0]	100
619	TG(48:3) [NL-16:1]	[M+NH ₄] ⁺	818.8	547.5	21	TG(51:0) [NL-17:0]	100
620	TG(48:3) [NL-18:3]	[M+NH ₄] ⁺	818.8	523.5	21	TG(51:0) [NL-17:0]	100
621	TG(48:3) [SIM]	[M+NH ₄] ⁺	818.8	818.8	21	TG(51:0) [SIM]	100
622	TG(49:1) [NL-16:1]	[M+NH ₄] ⁺	836.8	565.5	21	TG(51:0) [NL-17:0]	100
623	TG(49:1) [NL-17:1]	[M+NH ₄] ⁺	836.8	551.5	21	TG(51:0) [NL-17:0]	100
624	TG(49:1) [SIM]	[M+NH ₄] ⁺	836.8	836.8	21	TG(51:0) [SIM]	100
625	TG(50:0) [NL-18:0]	[M+NH ₄] ⁺	852.8	551.5	21	TG(51:0) [NL-17:0]	100
626	TG(50:0) [SIM]	[M+NH ₄] ⁺	852.8	852.8	21	TG(51:0) [SIM]	100
627	TG(50:1) [NL-14:0]	[M+NH ₄] ⁺	850.8	605.5	21	TG(51:0) [NL-17:0]	100
628	TG(50:1) [NL-16:0]	[M+NH ₄] ⁺	850.8	577.5	21	TG(51:0) [NL-17:0]	100
629	TG(50:1) [NL-18:1]	[M+NH ₄] ⁺	850.8	551.5	21	TG(51:0) [NL-17:0]	100
630	TG(50:1) [SIM]	[M+NH ₄] ⁺	850.8	850.8	21	TG(51:0) [SIM]	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
631	TG(50:2) [NL-14:0]	[M+NH ₄] ⁺	848.8	603.5	21	TG(51:0) [NL-17:0]	100
632	TG(50:2) [NL-16:1]	[M+NH ₄] ⁺	848.8	577.5	21	TG(51:0) [NL-17:0]	100
633	TG(50:2) [NL-18:1]	[M+NH ₄] ⁺	848.8	549.5	21	TG(51:0) [NL-17:0]	100
634	TG(50:2) [NL-18:2]	[M+NH ₄] ⁺	848.8	551.5	21	TG(51:0) [NL-17:0]	100
635	TG(50:2) [SIM]	[M+NH ₄] ⁺	848.8	848.8	21	TG(51:0) [SIM]	100
636	TG(50:3) [NL-14:0]	[M+NH ₄] ⁺	846.8	601.5	21	TG(51:0) [NL-17:0]	100
637	TG(50:3) [NL-14:1]	[M+NH ₄] ⁺	846.8	603.5	21	TG(51:0) [NL-17:0]	100
638	TG(50:3) [NL-16:1]	[M+NH ₄] ⁺	846.8	575.5	21	TG(51:0) [NL-17:0]	100
639	TG(50:3) [NL-18:2]	[M+NH ₄] ⁺	846.8	549.5	21	TG(51:0) [NL-17:0]	100
640	TG(50:3) [NL-18:3]	[M+NH ₄] ⁺	846.8	551.5	21	TG(51:0) [NL-17:0]	100
641	TG(50:3) [SIM]	[M+NH ₄] ⁺	846.8	846.8	21	TG(51:0) [SIM]	100
642	TG(50:4) [NL-14:0]	[M+NH ₄] ⁺	844.8	599.5	21	TG(51:0) [NL-17:0]	100
643	TG(50:4) [NL-18:3]	[M+NH ₄] ⁺	844.8	549.5	21	TG(51:0) [NL-17:0]	100
644	TG(50:4) [NL-20:4]	[M+NH ₄] ⁺	844.8	523.5	21	TG(51:0) [NL-17:0]	100
645	TG(50:4) [SIM]	[M+NH ₄] ⁺	844.8	844.8	21	TG(51:0) [SIM]	100
646	TG(51:0) [NL-16:0]	[M+NH ₄] ⁺	866.7	593.4	21	TG(51:0) [NL-17:0]	100
647	TG(51:0) [SIM]	[M+NH ₄] ⁺	866.7	866.7	21	TG(51:0) [SIM]	100
648	TG(51:1) [NL-17:0]	[M+NH ₄] ⁺	864.8	577.5	21	TG(51:0) [NL-17:0]	100
649	TG(51:1) [SIM]	[M+NH ₄] ⁺	864.8	864.8	21	TG(51:0) [NL-17:0]	100
650	TG(51:2) [NL-15:0]	[M+NH ₄] ⁺	862.8	603.5	21	TG(51:0) [NL-17:0]	100
651	TG(51:2) [NL-17:0]	[M+NH ₄] ⁺	862.8	575.5	21	TG(51:0) [SIM]	100
652	TG(51:2) [NL-17:1]	[M+NH ₄] ⁺	862.8	577.5	21	TG(51:0) [NL-17:0]	100
653	TG(51:2) [SIM]	[M+NH ₄] ⁺	862.8	862.8	21	TG(51:0) [NL-17:0]	100
654	TG(52:1) [NL-18:0]	[M+NH ₄] ⁺	878.8	577.5	21	TG(51:0) [SIM]	100
655	TG(52:1) [NL-18:1]	[M+NH ₄] ⁺	878.8	579.5	21	TG(51:0) [NL-17:0]	100
656	TG(52:1) [SIM]	[M+NH ₄] ⁺	878.8	878.8	21	TG(51:0) [NL-17:0]	100
657	TG(52:2) [NL-16:0]	[M+NH ₄] ⁺	876.8	603.5	21	TG(51:0) [SIM]	100
658	TG(52:2) [NL-18:2]	[M+NH ₄] ⁺	876.8	579.5	21	TG(51:0) [NL-17:0]	100
659	TG(52:2) [SIM]	[M+NH ₄] ⁺	876.8	876.8	21	TG(51:0) [NL-17:0]	100
660	TG(52:3) [NL-16:1]	[M+NH ₄] ⁺	874.8	603.5	21	TG(51:0) [SIM]	100
661	TG(52:3) [NL-18:2]	[M+NH ₄] ⁺	874.8	577.5	21	TG(51:0) [NL-17:0]	100
662	TG(52:3) [SIM]	[M+NH ₄] ⁺	874.8	874.8	21	TG(51:0) [NL-17:0]	100
663	TG(52:4) [NL-16:1]	[M+NH ₄] ⁺	872.8	601.5	21	TG(51:0) [NL-17:0]	100
664	TG(52:4) [NL-18:2]	[M+NH ₄] ⁺	872.8	575.5	21	TG(51:0) [SIM]	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
665	TG(52:4) [NL-18:3]	[M+NH ₄] ⁺	872.8	577.5	21	TG(51:0) [NL-17:0]	100
666	TG(52:4) [SIM]	[M+NH ₄] ⁺	872.8	872.8	21	TG(51:0) [NL-17:0]	100
667	TG(52:5) [NL-18:3]	[M+NH ₄] ⁺	870.8	575.5	21	TG(51:0) [NL-17:0]	100
668	TG(52:5) [NL-20:4]	[M+NH ₄] ⁺	870.8	549.5	21	TG(51:0) [SIM]	100
669	TG(52:5) [NL-20:5]	[M+NH ₄] ⁺	870.8	551.5	21	TG(51:0) [NL-17:0]	100
670	TG(52:5) [SIM]	[M+NH ₄] ⁺	870.8	870.8	21	TG(51:0) [NL-17:0]	100
671	TG(53:2) [NL-17:1]	[M+NH ₄] ⁺	890.8	605.5	21	TG(51:0) [SIM]	100
672	TG(53:2) [NL-18:1]	[M+NH ₄] ⁺	890.8	591.5	21	TG(51:0) [NL-17:0]	100
673	TG(53:2) [SIM]	[M+NH ₄] ⁺	890.8	890.8	21	TG(51:0) [SIM]	100
674	TG(54:0) [NL-18:0]	[M+NH ₄] ⁺	908.8	607.5	21	TG(51:0) [NL-17:0]	100
675	TG(54:0) [SIM]	[M+NH ₄] ⁺	908.8	908.8	21	TG(51:0) [SIM]	100
676	TG(54:1) [NL-18:1]	[M+NH ₄] ⁺	906.8	607.5	21	TG(51:0) [NL-17:0]	100
677	TG(54:1) [SIM]	[M+NH ₄] ⁺	906.8	906.8	21	TG(51:0) [NL-17:0]	100
678	TG(54:2) [NL-18:0]	[M+NH ₄] ⁺	904.8	603.5	21	TG(51:0) [SIM]	100
679	TG(54:2) [NL-20:1]	[M+NH ₄] ⁺	904.8	577.5	21	TG(51:0) [NL-17:0]	100
680	TG(54:2) [SIM]	[M+NH ₄] ⁺	904.8	904.8	21	TG(51:0) [NL-17:0]	100
681	TG(54:3) [NL-18:1]	[M+NH ₄] ⁺	902.8	603.5	21	TG(51:0) [SIM]	100
682	TG(54:3) [NL-18:2]	[M+NH ₄] ⁺	902.8	605.5	21	TG(51:0) [NL-17:0]	100
683	TG(54:3) [SIM]	[M+NH ₄] ⁺	902.8	902.8	21	TG(51:0) [NL-17:0]	100
684	TG(54:4) [NL-18:2]	[M+NH ₄] ⁺	900.8	603.5	21	TG(51:0) [SIM]	100
685	TG(54:4) [NL-20:3]	[M+NH ₄] ⁺	900.8	577.5	21	TG(51:0) [NL-17:0]	100
686	TG(54:4) [SIM]	[M+NH ₄] ⁺	900.8	900.8	21	TG(51:0) [NL-17:0]	100
687	TG(54:5) [NL-18:3]	[M+NH ₄] ⁺	898.8	603.5	21	TG(51:0) [SIM]	100
688	TG(54:5) [NL-20:4]	[M+NH ₄] ⁺	898.8	577.5	21	TG(51:0) [NL-17:0]	100
689	TG(54:5) [SIM]	[M+NH ₄] ⁺	898.8	898.8	21	TG(51:0) [NL-17:0]	100
690	TG(54:6) [NL-18:3]	[M+NH ₄] ⁺	896.8	601.5	21	TG(51:0) [NL-17:0]	100
691	TG(54:6) [NL-20:4]	[M+NH ₄] ⁺	896.8	575.5	21	TG(51:0) [NL-17:0]	100
692	TG(54:6) [NL-20:5]	[M+NH ₄] ⁺	896.8	577.5	21	TG(51:0) [SIM]	100
693	TG(54:6) [NL-22:6]	[M+NH ₄] ⁺	896.8	551.5	21	TG(51:0) [NL-17:0]	100
694	TG(54:6) [SIM]	[M+NH ₄] ⁺	896.8	896.8	21	TG(51:0) [NL-17:0]	100
695	TG(54:7) [NL-20:5]	[M+NH ₄] ⁺	894.8	575.5	21	TG(51:0) [SIM]	100
696	TG(54:7) [NL-22:6]	[M+NH ₄] ⁺	894.8	549.5	21	TG(51:0) [NL-17:0]	100
697	TG(54:7) [SIM]	[M+NH ₄] ⁺	894.8	894.8	21	TG(51:0) [NL-17:0]	100
698	TG(56:6) [NL-20:4]	[M+NH ₄] ⁺	924.8	603.5	21	TG(51:0) [NL-17:0]	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
699	TG(56:6) [NL-22:5](a/b)	[M+NH ₄] ⁺	924.8	577.5	21	TG(51:0) [SIM]	100
700	TG(56:6) [SIM]	[M+NH ₄] ⁺	924.8	924.8	21	TG(51:0) [NL-17:0]	100
701	TG(56:7) [NL-20:4]	[M+NH ₄] ⁺	922.8	601.5	21	TG(51:0) [NL-17:0]	100
702	TG(56:7) [NL-20:5]	[M+NH ₄] ⁺	922.8	603.5	21	TG(51:0) [NL-17:0]	100
703	TG(56:7) [NL-22:5](a/b)	[M+NH ₄] ⁺	922.8	575.5	21	TG(51:0) [NL-17:0]	100
704	TG(56:7) [NL-22:6]	[M+NH ₄] ⁺	922.8	577.5	21	TG(51:0) [NL-17:0]	100
705	TG(56:7) [SIM]	[M+NH ₄] ⁺	922.8	922.8	21	TG(51:0) [SIM]	100
706	TG(56:8) [NL-20:4]	[M+NH ₄] ⁺	920.8	599.5	21	TG(51:0) [NL-17:0]	100
707	TG(56:8) [NL-20:5]	[M+NH ₄] ⁺	920.8	601.5	21	TG(51:0) [NL-17:0]	100
708	TG(56:8) [NL-22:6]	[M+NH ₄] ⁺	920.8	575.5	21	TG(51:0) [NL-17:0]	100
709	TG(56:8) [SIM]	[M+NH ₄] ⁺	920.8	920.8	21	TG(51:0) [SIM]	100
710	TG(56:9) [NL-22:6]	[M+NH ₄] ⁺	918.8	573.5	21	TG(51:0) [NL-17:0]	100
711	TG(56:9) [SIM]	[M+NH ₄] ⁺	918.8	918.8	21	TG(51:0) [SIM]	100
712	TG(58:10) [NL-22:6]	[M+NH ₄] ⁺	944.9	599.5	21	TG(51:0) [NL-17:0]	100
713	TG(58:10) [SIM]	[M+NH ₄] ⁺	944.9	944.9	21	TG(51:0) [SIM]	100
714	TG(58:8) [NL-22:6]	[M+NH ₄] ⁺	948.8	603.5	21	TG(51:0) [NL-17:0]	100
715	TG(58:8) [SIM]	[M+NH ₄] ⁺	948.8	948.8	21	TG(51:0) [SIM]	100
716	TG(58:9) [NL-22:6]	[M+NH ₄] ⁺	946.9	601.5	21	TG(51:0) [NL-17:0]	100
717	TG(58:9) [SIM]	[M+NH ₄] ⁺	946.9	946.9	21	TG(51:0) [SIM]	100
718	TG(O-50:1) [NL-15:0]	[M+NH ₄] ⁺	836.8	577.5	21	TG(51:0) [NL-17:0]	100
719	TG(O-50:1) [NL-16:0]	[M+NH ₄] ⁺	836.8	563.5	21	TG(51:0) [NL-17:0]	100
720	TG(O-50:1) [NL-17:1]	[M+NH ₄] ⁺	836.8	551.5	21	TG(51:0) [NL-17:0]	100
721	TG(O-50:1) [NL-18:1]	[M+NH ₄] ⁺	836.8	537.5	21	TG(51:0) [NL-17:0]	100
722	TG(O-50:1) [SIM]	[M+NH ₄] ⁺	836.8	836.8	21	TG(51:0) [SIM]	100
723	TG(O-50:2) [NL-16:1]	[M+NH ₄] ⁺	834.8	563.5	21	TG(51:0) [NL-17:0]	100
724	TG(O-50:2) [NL-18:1]	[M+NH ₄] ⁺	834.8	535.5	21	TG(51:0) [NL-17:0]	100
725	TG(O-50:2) [NL-18:2]	[M+NH ₄] ⁺	834.8	537.5	21	TG(51:0) [NL-17:0]	100
726	TG(O-50:2) [SIM]	[M+NH ₄] ⁺	834.8	834.8	21	TG(51:0) [SIM]	100
727	TG(O-50:3) [NL-18:2]	[M+NH ₄] ⁺	832.8	535.5	21	TG(51:0) [NL-17:0]	100
728	TG(O-50:3) [SIM]	[M+NH ₄] ⁺	832.8	832.8	21	TG(51:0) [SIM]	100
729	TG(O-52:0) [NL-16:0]	[M+NH ₄] ⁺	866.8	593.5	21	TG(51:0) [NL-17:0]	100
730	TG(O-52:0) [SIM]	[M+NH ₄] ⁺	866.8	866.8	21	TG(51:0) [SIM]	100
731	TG(O-52:1) [NL-16:0]	[M+NH ₄] ⁺	864.8	591.5	21	TG(51:0) [NL-17:0]	100
732	TG(O-52:1) [NL-18:1]	[M+NH ₄] ⁺	864.8	565.5	21	TG(51:0) [NL-17:0]	100

Supplementary Table 15: MRM transitions and conditions for examined lipid species							
Lipid #	Lipid species	Parent ion	Precursor ion (Q1)	Product ion (Q3)	Collision energy (V)	Internal Standard	Internal Standard amount (pmol)
733	TG(O-52:1) [SIM]	[M+NH ₄] ⁺	864.8	864.8	21	TG(51:0) [SIM]	100
734	TG(O-52:2) [NL-16:0]	[M+NH ₄] ⁺	862.8	589.5	21	TG(51:0) [NL-17:0]	100
735	TG(O-52:2) [NL-17:1]	[M+NH ₄] ⁺	862.8	577.5	21	TG(51:0) [NL-17:0]	100
736	TG(O-52:2) [NL-18:1]	[M+NH ₄] ⁺	862.8	563.5	21	TG(51:0) [NL-17:0]	100
737	TG(O-52:2) [SIM]	[M+NH ₄] ⁺	862.8	862.8	21	TG(51:0) [SIM]	100
738	TG(O-54:2) [NL-17:1]	[M+NH ₄] ⁺	890.8	605.5	21	TG(51:0) [NL-17:0]	100
739	TG(O-54:2) [NL-18:1]	[M+NH ₄] ⁺	890.8	591.5	21	TG(51:0) [NL-17:0]	100
740	TG(O-54:2) [SIM]	[M+NH ₄] ⁺	890.8	890.8	21	TG(51:0) [SIM]	100
741	TG(O-54:3) [NL-17:1]	[M+NH ₄] ⁺	888.8	603.5	21	TG(51:0) [NL-17:0]	100
742	TG(O-54:3) [NL-18:1]	[M+NH ₄] ⁺	888.8	589.5	21	TG(51:0) [NL-17:0]	100
743	TG(O-54:3) [SIM]	[M+NH ₄] ⁺	888.8	888.8	21	TG(51:0) [SIM]	100
744	TG(O-54:4) [NL-17:1]	[M+NH ₄] ⁺	886.8	601.5	21	TG(51:0) [NL-17:0]	100
745	TG(O-54:4) [NL-18:2]	[M+NH ₄] ⁺	886.8	589.5	21	TG(51:0) [NL-17:0]	100
746	TG(O-54:4) [SIM]	[M+NH ₄] ⁺	886.8	886.8	21	TG(51:0) [SIM]	100
747	Ubiquinone	[M+NH ₄] ⁺	880.7	197	21	Hex3Cer(d18:1/17:0)	100