Supplemental Table 4. Level of LDL-lipid-metabolite at baseline and after intervention with phytosterol- or omega-3-supplemented milk on the LDL-lipidome.

Lipid	Phytosterol enriched milk intervention				Omega-3 enriched milk intervention			
	before	after	T-Student p-value*	After FDR Adjustment q-value[#]	before	after	T-Student p-value*	After FDR Adjustment q-value[#]
Cholesteryl esters								
CE 16:0	0.6 ± 0.28	0.6 ± 0.05	0.904	0.904	0.6 ± 0.07	0.6 ± 0.06	0.604	0.842
CE 16:1	0.3 ± 0.08	0.2 ± 0.07	0.479	0.904	0.2 ± 0.07	0.1 ± 0.06	0.292	0.842
CE 18:1	2.7 ± 0.17	2.7 ± 0.22	0.705	0.904	2.9 ± 0.25	2.8 ± 0.23	0.655	0.842
CE 18:2	22.9 ± 1.56	22.7 ± 1.61	0.899	0.904	23.2 ± 1.53	23.2 ± 1.75	0.655	0.842
CE 18:3	1.2 ± 0.08	1.1 ± 0.09	0.656	0.904	1.1 ± 0.10	1.1 ± 0.09	0.996	0.996
CE 20:3	0.7 ± 0.05	0.6 ± 0.07	0.336	0.904	0.7 ± 0.08	0.7 ± 0.07	0.874	0.983
CE 20:4	9.8 ± 0.71	9.9 ± 0.67	0.893	0.904	9.9 ± 0.76	9.5 ± 0.71	0.468	0.842
CE 20:5	**2.2 ± 0.36**	**1.9 ± 0.31**	**0.050**	**0.435**	**1.7 ± 0.23**	**2.8 ± 0.30**	**0.000**	**0.000**
CE 22:6	2.1 ± 0.22	2.0 ± 0.20	1.754	0.904	**2.0 ± 0.18**	**2.3 ± 0.21**	**0.041**	**0.153**
Sphingomyelins								
SM 30:3;4	62.5 ± 5.25	57.9 ± 4.00	0.278	0.524	63.2 ± 6.75	71.4 ±14.38	0.547	0.187
SM 32:2;3	30.1 ± 4.13	29.9 ± 2.88	0.825	0.851	35.1 ± 4.25	37.1 ± 8.13	0.782	0.782
SM 32:3;4	709.2±47.25	644.6±40.50	0.169	0.524	734.2±75.75	799.6±135.5	0.614	0.778
SM 34:0;2	6.2 ± 1.88	4.1 ± 1.88	0.401	0.524	6.6 ± 1.63	8.1 ± 2.25	0.462	0.778
SM 34:2;2	90.7 ± 6.13	81.8 ± 5.63	0.165	0.524	93.5 ± 8.00	98.2±13.38	0.732	0.778
SM 34:3;4	119.2 ± 8.00	110.7 ± 8.13	0.326	0.524	124.7±13.13	133.0± 21.00	0.690	0.778
SM 36:1;4	15.0 ± 5.50	19.4 ± 5.25	0.478	0.580	17.0 ± 5.25	13.5 ± 5.25	0.509	0.778
SM 36:2;2	56.5 ± 4.38	52.2 ± 4.00	0.348	0.524	58.7 ± 5.25	62.0 ± 8.88	0.705	0.778
SM 38:1;2	59.9 ± 10.00	52.0 ± 10.00	0.395	0.524	**43.4 ± 7.75**	**72.0 ± 11.50**	**0.011**	**0.778**
SM 38:2;3	30.1 ± 3.88	29.2 ± 3.25	0.851	0.851	33.5 ± 3.63	36.2 ± 6.38	0.646	0.778
SM:1;2	197.4 ± 14.00	174.2 ± 14.13	0.087	0.524	197.4±21.50	213.2± 30.13	0.643	0.778
SM 40:2;2	67.5 ± 7.63	68.9 ± 7.50	0.823	0.851	74.9± 11.38	80.4 ± 9.88	0.674	0.778
SM 40:2;3	99.0 ± 10.13	89.6 ± 9.00	0.231	0.524	98.0 ±12.38	114.0 ± 18.13	0.396	0.778
SM 40:3;3	64.4 ± 6.63	60.1 ± 5.75	0.342	0.524	65.2 ± 7.88	73.4 ± 14.00	0.520	0.778
SM 40:3;4	128.2 ± 9.50	115.1 ± 9.25	0.153	0.524	129.5 ± 14.00	142.5 ± 22.75	0.588	0.778

Supplemental Table 4. Continued

Lipid	Phytosterol enriched milk intervention				Phytosterol enriched milk intervention			
	before	after	T-Student p-value*	After FDR Adjustment q-value[#]	before	after	T-Student p-value*	After FDR Adjustment q-value[#]
SM 42:2;2	369.5 ± 25.38	338.9 ± 25.38	0.261	0.524	390.6 ± 43.63	424.0 ± 65.50	0.615	0.778
SM 42:3;2	121.4± 8.75	111.1 ± 9.50	0.321	0.524	129.2± 13.38	145.8 ± 25.88	0.493	0.778
Glycerophospholipids								
LPC 16:0	**40.5± 3.25**	**34.1 ± 3.00**	*0.037*	*0.080*	39.4± 4.75	47.2 ± 8.25	0.346	0.977
LPC 18:0	16.9± 4.13	13.1 ± 3.63	0.417	0.307	**12.5 ± 3.63**	**23.5 ± 5.50**	**0.040**	**0.473**
PC 30:0	12.0± 3.88	14.0 ± 3.38	0.637	0.398	13.0 ± 4.50	10.6 ± 7.75	0.802	0.977
PC 30:1	21.5± 8.88	29.9 ± 7.88	0.454	0.307	20.9 ± 7.50	21.7 ± 15.00	0.954	0.977
PC 32:0	54.1± 3.38	47.9 ± 3.25	0.084	0.117	56.0 ± 5.00	61.0 ± 10.50	0.622	0.977
PC 32:1	38.9± 3.88	30.4 ± 3.00	0.093	0.121	36.0 ± 3.88	38.9 ± 8.25	0.709	0.977
PC 34:1	**658.1± 45.63**	**566.5 ± 42.3**	*0.032*	*0.080*	669.0 ± 57.88	691.6 ± 133.5	0.841	0.977
PC 34:2	1268.9± 72.88	1135.5 ± 83.00	0.135	0.153	1307.0 ± 144.1	1358.3 ± 197.5	0.816	0.977
PC 34:3	**27.1± 3.13**	**21.5 ± 2.88**	*0.014*	*0.080*	26.9 ± 4.13	27.9 ± 5.38	0.864	0.977
PC 36:0	8.5± 3.13	11.1 ± 3.25	0.549	0.352	8.4 ± 3.13	14.2 ± 3.38	0.308	0.977
PC 36:1	203.9± 18.38	173.5 ± 14.38	0.074	0.117	188.8 ± 20.5	205.9 ± 37.25	0.648	0.977
PC 36:2	672.6± 43.5	591.1 ± 48.00	0.080	0.117	663.9 ± 73.50	725.4 ± 108.9	0.606	0.977
PC 36:3	**346.5± 23.88**	**299.3 ± 23.00**	*0.034*	*0.080*	348.2 ± 34.75	367.6 ± 72.13	0.778	0.977
PC 36:4	459.5± 32.25	406.1 ± 29.75	0.097	0.117	458.6 ± 47.50	463.0 ± 71.63	0.952	0.977
PC 36:5	**76.6± 18.25**	**41.3 ± 7.38**	*0.050*	*0.084*	**52.3 ± 9.25**	**90.5 ± 15.50**	**0.008**	**0.172**
PC 38:3	90.1± 8.38	79.4 ± 10.88	0.223	0.219	84.0 ± 10.25	93.4 ± 22.50	0.683	0.977
PC 38:4	259.0± 23.63	233.4 ± 24.75	0.271	0.219	257.7 ± 28.00	263.1 ± 39.25	0.898	0.977
PC 38:5	**114.3± 13.63**	**86.8 ± 7.38**	*0.038*	*0.084*	100.7 ± 9.75	127.1 ± 20.13	0.157	0.977
PC 38:6	216.1± 22.75	188.4 ± 17.13	0.161	0.168	209.2 ± 25.25	269.6 ± 46.38	0.154	0.977
PC 40:6	73.4± 8.13	66.0 ± 6.50	0.268	0.219	71.1 ± 8.88	93.2 ± 15.63	0.142	0.977
PE 34:2	**0.8± 0.13**	**0.3 ± 0.13**	**0.015**	*0.080*	0.8 ± 0.13	0.8 ± 0.13	1.000	0.999
PE 36:2	**1.3 ± 0.25**	**0.8 ± 0.13**	*0.028*	*0.080*	1.4 ± 0.38	1.3 ± 0.25	0.854	0.977
PE 36:3	1.0 ± 0.25	0.8 ± 0.25	0.260	0.219	1.0 ± 0.25	1.0 ± 0.25	0.773	0.977
PE 38:4	2.0 ± 0.50	1.5 ± 0.25	0.233	0.219	2.1 ± 0.63	2.1 ± 0.50	0.912	0.977
PE 38:6	1.5 ± 0.50	1.1 ± 0.25	0.449	0.307	1.8 ± 0.50	2.3 ± 0.63	0.369	0.977

Lipid	Phytosterol enriched milk intervention				Phytosterol enriched milk intervention			
	before	after	T-Student p-value*	After FDR Adjustment q-value[#]	before	after	T-Student p-value*	After FDR Adjustment q-value[#]
LPS 14:1	17.6 ± 3.00	17.5 ± 3.13	*0.920*	***0.535***	18.4 ± 3.25	17.2 ± 2.88	*0.430*	*0.977*
LPS 16:0	**4.2 ± 1.25**	**2.6 ± 0.63**	***0.050***	***0.084***	3.2 ± 0.88	4.2 ± 1.25	*0.084*	*0.903*
LPS 18:0	2.4 ± 0.63	2.0 ± 0.50	*0.447*	*0.30*	**1.5 ± 0.38**	**2.4 ± 0.50**	***0.033***	***0.473***
LPS 24:5	13.5 ± 2.25	13.2 ± 2.25	*0.806*	*0.480*	13.4 ± 2.25	12.5 ± 2.13	*0.501*	*0.977*
LPS 30:3	5.2 ± 0.88	4.9 ± 0.88	*0.438*	*0.307*	4.9 ± 0.88	4.7 ± 0.88	*0.850*	*0.977*
PS 20:6	16.6 ± 2.38	15.6 ± 2.63	*0.250*	*0.219*	16.5 ± 2.38	17.1 ± 2.25	*0.777*	*0.977*
PS 26:4	8.1 ± 1.13	7.1 ± 1.00	*0.156*	*0.168*	7.2 ± 1.00	6.9 ± 1.00	*0.724*	*0.977*
PS 28:0	12.6 ± 2.63	12.0 ± 2.38	*0.467*	*0.307*	11.0 ± 2.00	12.1 ± 2.50	*0.290*	*0.977*
PS 32:2	**3.4 ± 0.38**	**2.3 ± 0.38**	***0.035***	***0.080***	3.2 ± 0.38	3.7 ± 0.88	*0.492*	*0.977*
PS 34:1	**5.6 ± 0.88**	**3.9 ± 0.63**	***0.030***	***0.080***	4.7 ± 0.75	5.1 ± 1.00	*0.803*	*0.977*
PS 34:2	9.9 ± 2.00	8.5 ± 1.50	*0.244*	*0.219*	9.2 ± 1.63	9.2 ± 1.38	*0.949*	*0.977*
PS 36:2	5.9 ± 0.88	5.5 ± 0.88	*0.696*	*0.424*	4.6 ± 0.75	5.5 ± 0.75	*0.273*	*0.977*
PS 36:3	13.6 ± 2.13	11.1 ± 1.50	*0.075*	*0.117*	12.5 ± 1.88	12.6 ± 1.88	*0.913*	*0.977*
PS 36:4	**18.9 ± 2.38**	**14.6 ± 1.75**	***0.050***	***0.084***	16.4 ± 2.38	17.1 ± 2.88	*0.771*	*0.977*
PS 36:5	**31.0 ± 7.25**	**20.9 ± 4.38**	***0.024***	***0.080***	25.4 ± 5.88	26.4 ± 5.50	*0.742*	*0.977*
PS 38:4	5.5 ± 1.00	4.5 ± 0.88	*0.123*	*0.146*	47.5 ± 0.88	5.2 ± 1.50	*0.723*	*0.977*
PS 38:5	**15.5 ± 3.00**	**11.0 ± 1.75**	***0.019***	***0.080***	13.7 ± 2.88	14.4 ± 2.38	*0.746*	*0.977*
PS 38:6	7.4 ± 1.63	6.4 ± 1.38	*0.315*	*0.246*	6.6 ± 1.50	7.0 ± 1.50	*0.803*	*0.977*

CE: cholesteryl esters, SM sphingomyelin, LPC: lysophosphatidylcholine, PE: phosphatidylcholine, PE: phosphatidylethanolamine, LPS lyso phosphatidylserine, and PS: phosphatidylserine

Data are shown as mean ± SEM of LDL lipid-specimens given as mg/100mL plasma for the CE-species and µg/100mL plasma for SM, LPC, PC, PE, LPS, and PS species.

N=19 / intervention group. *p-values assessed by paired T-Student test between values before and after intervention for each group. # q-values: adjusted p-values by FDR