**Supplemental Table S1**

Quadriceps sphingolipid species in wild type (WT) and dysferlin-deficient (BLAJ) mice, presented as absolute units relative to protein mass. Ceramide (Cer), monohexosylceramide (Hex1Cer), dihexosylceramide (Hex2Cer), trihexosylceramide (Hex3Cer), GM3 ganglioside (GM3), sphingomyelin (SM). N = 12 WT, N = 8 BLAJ. Data are mean +/- SEM. *P < 0.05 as assessed by two-tailed unpaired t-test.

| | **Sphingolipids** | **WT** | | | **BLAJ** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Species** | **pmol/mg protein** | | | **pmol/mg protein** | | | **P value** | **P < 0.05** |
| Cer | d18:0/18:0 | 5.1 | ± | 1.0 | 10.1 | ± | 2.2 | 0.0287 | * |
| Cer | d18:0/20:0 | 4.6 | ± | 1.6 | 6.2 | ± | 2.5 | 0.5589 | |
| Cer | d18:0/22:0 | 2.9 | ± | 0.9 | 4.0 | ± | 0.8 | 0.4068 | |
| Cer | d18:0/24:0 | 3.1 | ± | 1.3 | 3.8 | ± | 0.7 | 0.6867 | |
| Cer | d18:0/24:1 | 3.5 | ± | 0.5 | 9.5 | ± | 2.3 | 0.0059 | * |
| Cer | d18:1/16:0 | 20.1 | ± | 2.2 | 88.3 | ± | 18.7 | 0.0003 | * |
| Cer | d18:1/18:0 | 371.0 | ± | 31.5 | 292.0 | ± | 20.4 | 0.0778 | |
| Cer | d18:1/20:0 | 10.9 | ± | 1.0 | 14.7 | ± | 1.6 | 0.0435 | * |
| Cer | d18:1/22:0 | 61.3 | ± | 5.9 | 84.1 | ± | 14.3 | 0.1101 | |
| Cer | d18:1/24:0 | 74.4 | ± | 7.8 | 126.3 | ± | 23.7 | 0.0260 | * |
| Cer | d18:1/24:1 | 129.3 | ± | 14.0 | 278.2 | ± | 44.4 | 0.0015 | * |
| Hex1Cer | d18:1/16:0 | 8.0 | ± | 1.5 | 98.0 | ± | 22.2 | 0.0001 | * |
| Hex1Cer | d18:1/18:0 | 19.0 | ± | 3.1 | 64.2 | ± | 35.0 | 0.1287 | |
| Hex1Cer | d18:1/20:0 | 25.7 | ± | 3.7 | 64.8 | ± | 34.0 | 0.1763 | |
| Hex1Cer | d18:1/22:0 | 30.2 | ± | 4.6 | 118.4 | ± | 53.6 | 0.0579 | |
| Hex1Cer | d18:1/24:0 | 413.3 | ± | 72.1 | 1193.7 | ± | 664.4 | 0.1673 | |
| Hex1Cer | d18:1/24:1 | 72.1 | ± | 11.4 | 229.1 | ± | 105.6 | 0.0851 | |
| Hex2Cer | d18:1/16:0 | 6.8 | ± | 3.8 | 33.7 | ± | 7.5 | 0.0024 | * |
| Hex2Cer | d18:1/18:0 | 35.2 | ± | 3.3 | 66.3 | ± | 12.4 | 0.0100 | * |
| Hex2Cer | d18:1/20:0 | 1.2 | ± | 0.2 | 3.7 | ± | 1.0 | 0.0076 | * |
| Hex2Cer | d18:1/22:0 | 4.7 | ± | 0.8 | 24.6 | ± | 7.0 | 0.0028 | * |
| Hex2Cer | d18:1/24:0 | 10.0 | ± | 1.4 | 51.5 | ± | 12.8 | 0.0009 | * |
| Hex2Cer | d18:1/24:1 | 9.1 | ± | 2.7 | 42.5 | ± | 10.3 | 0.0015 | * |
| Hex3Cer | d18:1/16:0 | 0.7 | ± | 0.2 | 3.1 | ± | 0.5 | 0.0001 | * |
| Hex3Cer | d18:1/18:0 | 1.9 | ± | 0.5 | 7.1 | ± | 0.8 | 0.0000 | * |
| Hex3Cer | d18:1/20:0 | 2.7 | ± | 0.4 | 9.4 | ± | 5.6 | 0.1579 | |
| Hex3Cer | d18:1/22:0 | 4.4 | ± | 0.6 | 12.5 | ± | 4.7 | 0.0490 | * |
| Hex3Cer | d18:1/24:0 | 0.6 | ± | 0.2 | 1.7 | ± | 0.5 | 0.0394 | * |
| Hex3Cer | d18:1/24:1 | 2.3 | ± | 0.5 | 15.6 | ± | 1.9 | 0.0000 | * |
| GM3 | d18:1/16:0 | 2.5 | ± | 0.3 | 34.5 | ± | 8.4 | 0.0002 | * |
| GM3 | d18:1/18:0 | 73.4 | ± | 8.0 | 90.0 | ± | 6.7 | 0.1582 | |
| GM3 | d18:1/20:0 | 7.3 | ± | 1.1 | 13.9 | ± | 1.8 | 0.0030 | * |
| GM3 | d18:1/22:0 | 6.7 | ± | 0.9 | 19.6 | ± | 5.0 | 0.0058 | * |
| GM3 | d18:1/24:0 | 3.2 | ± | 0.6 | 11.4 | ± | 2.8 | 0.0029 | * |
| GM3 | d18:1/24:1 | 9.0 | ± | 1.7 | 45.5 | ± | 11.3 | 0.0010 | * |
| SM | d17:1/14:0 | 0.1 | ± | 0.0 | 0.2 | ± | 0.0 | 0.1527 | |
| SM | d18:0/14:0 | 1.6 | ± | 0.2 | 1.5 | ± | 0.2 | 0.6465 | |
| SM | d18:1/14:0/d16:1/16:0 | 4.6 | ± | 0.5 | 7.7 | ± | 1.5 | 0.0291 | * |
| SM | d18:2/14:0 | 0.2 | ± | 0.0 | 0.3 | ± | 0.1 | 0.1296 | |
| SM | d17:1/16:0 | 14.5 | ± | 1.8 | 39.3 | ± | 7.5 | 0.0012 | * |
| SM | d18:0/16:0 | 42.1 | ± | 4.9 | 156.6 | ± | 29.8 | 0.0002 | * |
| SM | d18:1/16:0 | 472.4 | ± | 53.9 | 1563.3 | ± | 291.2 | 0.0003 | * |
| SM | d18:2/16:0 | 16.8 | ± | 1.8 | 62.2 | ± | 13.2 | 0.0006 | * |
| SM | d16:1/19:0 | 2.3 | ± | 0.2 | 4.5 | ± | 0.7 | 0.0030 | * |
| SM | d18:1/17:0/d17:1/18:0 | 83.5 | ± | 7.5 | 107.8 | ± | 10.9 | 0.0722 | |
| SM | 35:2 | 1.1 | ± | 0.1 | 2.3 | ± | 0.4 | 0.0015 | * |
| SM | d18:1/18:0/d16:1/20:0 | 2016.1 | ± | 168.0 | 2235.7 | ± | 197.3 | 0.4119 | |
| SM | d18:2/18:0 | 66.3 | ± | 5.1 | 125.1 | ± | 17.7 | 0.0014 | * |
| SM | d18:2/18:1 | 1.4 | ± | 0.1 | 2.6 | ± | 0.3 | 0.0006 | * |
| SM | 37:2 | 2.9 | ± | 0.3 | 4.9 | ± | 0.6 | 0.0029 | * |
| SM | d18:1/20:0/d16:1/22:0 | 100.3 | ± | 10.3 | 185.5 | ± | 46.8 | 0.0460 | * |
| SM | d18:2/20:0 | 9.6 | ± | 1.2 | 18.4 | ± | 4.0 | 0.0220 | * |
| SM | d16:1/23:0/d17:1/22:0 | 19.5 | ± | 2.4 | 31.8 | ± | 7.0 | 0.0692 | |
| SM | d18:1/23:0/d17:1/24:0 | 92.3 | ± | 10.6 | 184.6 | ± | 40.2 | 0.0165 | * |
| SM | d17:1/24:1 | 17.7 | ± | 2.1 | 39.9 | ± | 7.2 | 0.0025 | * |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SM | d18:2/23:0 | 13.8 | ± | 1.9 | 28.2 | ± | 6.3 | 0.0192 | * |
| SM | d18:1/24:0 | 292.2 | ± | 35.6 | 671.1 | ± | 186.2 | 0.0260 | * |
| SM | d18:1/24:1 | 432.0 | ± | 45.7 | 1273.3 | ± | 271.5 | 0.0015 | * |
| SM | d18:2/24:0 | 30.6 | ± | 3.5 | 83.8 | ± | 19.4 | 0.0041 | * |

**Supplemental Table S2**

Quadriceps cholesterol (COH) and cholesteryl esters (CE) in wild type (WT) and dysferlin-deficient (BLAJ) mice, presented as absolute units relative to protein mass. N = 12 WT, N = 8 BLAJ. Data are mean +/- SEM. *P < 0.05 as assessed by two-tailed unpaired t-test.

| Cholesterols | | WT | | | BLAJ | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Species | | pmol/mg protein | | | pmol/mg protein | | | P value | P < 0.05 |
| COH | | 10735.88 | ± | 1256.32 | 19348.93 | ± | 3076.00 | 0.0086 | * |
| CE | 14:0 | n.d. | ± | | n.d. | ± | | | |
| CE | 15:0 | n.d. | ± | | 3.93 | ± | 3.93 | 0.2301 | |
| CE | 16:0 | 9.27 | ± | 9.27 | 48.05 | ± | 22.09 | 0.0834 | |
| CE | 16:1 | n.d. | ± | | n.d. | ± | | | |
| CE | 16:2 | 0.02 | ± | 0.02 | 0.53 | ± | 0.37 | 0.1080 | |
| CE | 17:0 | 0.00 | ± | | 0.41 | ± | 0.41 | 0.2301 | |
| CE | 17:1 | 0.12 | ± | 0.12 | 1.16 | ± | 0.89 | 0.1744 | |
| CE | 18:0 | 0.23 | ± | 0.16 | 13.69 | ± | 3.39 | 0.0001 | * |
| CE | 18:1 | 73.09 | ± | 40.39 | 342.11 | ± | 57.82 | 0.0010 | * |
| CE | 18:2 | 161.83 | ± | 102.43 | 408.65 | ± | 115.78 | 0.1338 | |
| CE | 18:3 | 2.91 | ± | 2.91 | 5.78 | ± | 3.36 | 0.5308 | |
| CE | 20:1 | 0.12 | ± | 0.12 | 11.51 | ± | 2.97 | 0.0002 | * |
| CE | 20:2 | 1.01 | ± | 0.42 | 14.83 | ± | 3.23 | 0.0001 | * |
| CE | 20:3 | 15.85 | ± | 3.82 | 45.71 | ± | 9.85 | 0.0046 | * |
| CE | 20:4 | 284.97 | ± | 45.17 | 635.04 | ± | 152.09 | 0.0180 | * |
| CE | 20:5 | 9.74 | ± | 5.17 | 22.50 | ± | 9.68 | 0.2216 | |
| CE | 22:4 | 0.05 | ± | 0.03 | 1.72 | ± | 0.37 | 0.0000 | * |
| CE | 22:5 (n3) | 5.14 | ± | 0.92 | 23.71 | ± | 4.27 | 0.0001 | * |
| CE | 22:5 (n6) | 0.21 | ± | 0.08 | 17.77 | ± | 3.18 | 0.0000 | * |
| CE | 24:5 | 0.01 | ± | 0.01 | 1.22 | ± | 0.27 | 0.0000 | * |
| CE | 24:6 | 1.66 | ± | 0.38 | 6.50 | ± | 1.66 | 0.0031 | * |

**Supplemental Table S3**

Quadriceps diglyceride (DG) and triglyceride (TG) in wild type (WT) and dysferlin-deficient (BLAJ) mice, presented as absolute units relative to protein mass. N = 12 WT, N = 8 BLAJ. Data are mean +/- SEM. *P < 0.05 as assessed by two-tailed unpaired t-test.

| | Glycerolipids | WT | | | BLAJ | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Species | pmol/mg protein | | | pmol/mg protein | | | P value | P < 0.05 |
| DG | 14:0_16:0 (a) | 88.49 | ± | 9.77 | 57.10 | ± | 5.20 | 0.0244 | * |
| DG | 14:0_16:0 (b) | 5.28 | ± | 1.40 | 6.01 | ± | 1.56 | 0.7354 | |
| DG | 14:0_18:1 (a) | 72.98 | ± | 9.69 | 106.08 | ± | 24.36 | 0.1670 | |
| DG | 14:0_18:1 (b) | 8.91 | ± | 1.36 | 19.03 | ± | 4.93 | 0.0304 | * |
| DG | 14:0_18:2 (a) | 26.00 | ± | 3.88 | 47.94 | ± | 14.94 | 0.1075 | |
| DG | 14:0_18:2 (b) | 3.41 | ± | 0.67 | 10.28 | ± | 3.17 | 0.0199 | * |
| DG | 16:0_16:0 (a) | 849.46 | ± | 66.45 | 679.40 | ± | 46.48 | 0.0758 | |
| DG | 16:0_16:0 (b) | 195.90 | ± | 18.76 | 213.67 | ± | 24.22 | 0.5647 | |
| DG | 16:0_18:0 | 408.21 | ± | 75.50 | 589.10 | ± | 89.68 | 0.1426 | |
| DG | 16:0_18:1 (a) | 2196.40 | ± | 273.12 | 3601.71 | ± | 743.57 | 0.0558 | |
| DG | 16:0_18:1 (b) | 645.25 | ± | 95.15 | 1092.82 | ± | 238.14 | 0.0620 | |
| DG | 16:0_18:2 (a) | 845.34 | ± | 128.09 | 1672.82 | ± | 406.77 | 0.0354 | * |
| DG | 16:0_18:2 (b) | 159.31 | ± | 29.88 | 404.75 | ± | 119.25 | 0.0282 | * |
| DG | 16:0_20:4 (a) | 81.75 | ± | 7.19 | 134.11 | ± | 16.03 | 0.0036 | * |
| DG | 16:0_20:4 (b) | 26.67 | ± | 1.91 | 55.81 | ± | 9.45 | 0.0018 | * |
| DG | 16:0_22:5 (a) | 76.51 | ± | 7.76 | 75.45 | ± | 8.43 | 0.9293 | |
| DG | 16:0_22:5 (b) | 20.42 | ± | 1.87 | 27.93 | ± | 3.36 | 0.0490 | * |
| DG | 16:0_22:6 | 273.95 | ± | 24.87 | 329.98 | ± | 29.77 | 0.1678 | |
| DG | 16:1_18:1 (a) | 530.41 | ± | 86.28 | 644.53 | ± | 191.02 | 0.5496 | |
| DG | 16:1_18:1 (b) | 93.54 | ± | 17.87 | 136.26 | ± | 43.04 | 0.3123 | |
| DG | 18:0_18:0 | 443.96 | ± | 125.81 | 485.19 | ± | 111.17 | 0.8208 | |
| DG | 18:0_18:1 | 372.03 | ± | 56.73 | 1067.75 | ± | 294.16 | 0.0114 | * |
| DG | 18:0_18:2 | 317.45 | ± | 48.72 | 1067.36 | ± | 309.21 | 0.0090 | * |
| DG | 18:0_20:4 | 621.12 | ± | 74.95 | 1251.40 | ± | 146.32 | 0.0005 | * |
| DG | 18:0_22:6 | 7.62 | ± | 1.89 | 13.33 | ± | 8.06 | 0.4187 | |
| DG | 18:1_18:1 | 3156.21 | ± | 514.54 | 7065.10 | ± | 2051.69 | 0.0404 | * |
| DG | 18:1_18:2 (a) | 1300.35 | ± | 222.45 | 3275.82 | ± | 1013.47 | 0.0340 | * |
| DG | 18:1_18:2 (b) | 240.74 | ± | 42.92 | 758.70 | ± | 261.61 | 0.0283 | * |
| DG | 18:1_18:3 (a) | 150.22 | ± | 28.93 | 305.77 | ± | 90.64 | 0.0717 | |
| DG | 18:1_18:3 (b) | 33.41 | ± | 6.60 | 91.84 | ± | 30.52 | 0.0367 | * |
| DG | 18:1_20:3 (a) | 15.94 | ± | 2.07 | 29.51 | ± | 6.22 | 0.0267 | * |
| DG | 18:1_20:3 (b) | 20.46 | ± | 3.00 | 45.21 | ± | 10.41 | 0.0146 | * |
| DG | 18:1_20:4 (a) | 59.23 | ± | 7.11 | 121.95 | ± | 24.85 | 0.0102 | * |
| DG | 18:1_20:4 (b) | 20.56 | ± | 2.39 | 59.37 | ± | 12.03 | 0.0012 | * |
| DG | 18:1_22:5 (a) | 6.15 | ± | 0.63 | 13.88 | ± | 2.26 | 0.0010 | * |
| DG | 18:1_22:5 (b) | 5.96 | ± | 0.83 | 14.42 | ± | 1.92 | 0.0002 | * |
| DG | 18:2_18:2 (a) | 266.28 | ± | 48.47 | 768.89 | ± | 242.63 | 0.0242 | * |
| DG | 18:2_18:2 (b) | 53.82 | ± | 10.33 | 155.24 | ± | 49.33 | 0.0257 | * |
| TG | 14:0_16:0_18:2 | 3386.68 | ± | 337.74 | 2107.25 | ± | 333.52 | 0.0229 | * |
| TG | 14:0_16:1_18:1 | 1818.32 | ± | 191.18 | 1266.65 | ± | 208.29 | 0.0840 | |
| TG | 14:0_16:1_18:2 | 991.94 | ± | 139.82 | 766.16 | ± | 154.05 | 0.3217 | |
| TG | 14:0_18:0_18:1 | 48.16 | ± | 5.36 | 66.17 | ± | 13.12 | 0.2001 | |
| TG | 14:0_18:2_18:2 | 603.98 | ± | 95.85 | 694.90 | ± | 146.02 | 0.6136 | |
| TG | 14:1_16:0_18:1 | 399.55 | ± | 37.99 | 261.37 | ± | 43.83 | 0.0370 | * |
| TG | 14:1_16:1_18:0 | 5856.52 | ± | 536.53 | 2809.37 | ± | 549.67 | 0.0017 | * |
| TG | 14:1_18:0_18:2 | 160.55 | ± | 16.43 | 127.56 | ± | 20.24 | 0.2422 | |
| TG | 14:1_18:1_18:1 | 2093.88 | ± | 205.08 | 1554.47 | ± | 218.77 | 0.1101 | |
| TG | 15:0_16:0_18:1 | 128.20 | ± | 9.25 | 146.18 | ± | 16.29 | 0.3466 | |
| TG | 15:0_18:1_18:1 | 94.80 | ± | 8.97 | 111.93 | ± | 16.99 | 0.3766 | |
| TG | 16:0_16:0_16:0 | 758.55 | ± | 78.48 | 678.55 | ± | 92.64 | 0.5396 | |
| TG | 16:0_16:0_18:0 | 282.20 | ± | 44.71 | 341.98 | ± | 60.74 | 0.4519 | |
| TG | 16:0_16:0_18:1 | 2474.62 | ± | 222.98 | 2548.56 | ± | 330.45 | 0.8574 | |
| TG | 16:0_16:0_18:2 | 1693.79 | ± | 147.91 | 2129.06 | ± | 312.09 | 0.2104 | |
| TG | 16:0_16:1_18:1 | 4711.24 | ± | 390.21 | 3583.84 | ± | 455.10 | 0.0917 | |
| TG | 16:0_18:0_18:1 | 1054.59 | ± | 197.57 | 1671.28 | ± | 397.12 | 0.1714 | |
| TG | 16:0_18:1_18:1 | 6111.27 | ± | 574.88 | 6665.22 | ± | 934.69 | 0.6210 | |
| TG | 16:0_18:1_18:2 | 4535.46 | ± | 400.27 | 5423.33 | ± | 759.64 | 0.3067 | |
| TG | 16:0_18:2_18:2 | 2692.48 | ± | 302.25 | 3132.56 | ± | 505.93 | 0.4646 | |
| TG | 16:1_16:1_16:1 | 1559.31 | ± | 211.85 | 633.50 | ± | 142.60 | 0.0052 | * |
| TG | 16:1_16:1_18:0 | 184.25 | ± | 13.68 | 173.32 | ± | 28.47 | 0.7262 | |
| TG | 16:1_16:1_18:1 | 3327.32 | ± | 354.78 | 2104.52 | ± | 339.35 | 0.0344 | * |
| TG | 16:1_18:1_18:1 | 2904.64 | ± | 259.19 | 2168.96 | ± | 260.49 | 0.0803 | |
| TG | 16:1_18:1_18:2 | 6061.11 | ± | 550.55 | 5318.97 | ± | 665.53 | 0.4237 | |
| TG | 16:0_16:1_17:0 | 307.96 | ± | 24.68 | 280.98 | ± | 30.77 | 0.5208 | |
| TG | 14:0_17:0_18:1 | 134.22 | ± | 9.97 | 145.03 | ± | 14.40 | 0.5529 | |
| TG | 16:0_17:0_18:1 | 120.14 | ± | 15.58 | 160.03 | ± | 26.71 | 0.2118 | |
| TG | 16:1_17:0_18:1 | 560.92 | ± | 50.96 | 535.40 | ± | 71.02 | 0.7793 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TG | 17:0_18:1_18:1 | 382.99 | ± | 57.93 | 569.07 | ± | 123.57 | 0.1766 |
| TG | 16:0_17:0_18:2 | 515.18 | ± | 53.99 | 543.63 | ± | 81.11 | 0.7769 |
| TG | 18:0_18:0_18:1 | 65.88 | ± | 15.88 | 189.50 | ± | 65.64 | 0.0625 |
| TG | 18:0_18:1_18:1 | 1219.96 | ± | 233.70 | 2274.66 | ± | 582.71 | 0.0951 |
| TG | 18:0_18:2_18:2 | 2716.84 | ± | 276.94 | 3481.14 | ± | 508.63 | 0.1979 |
| TG | 14:0_16:0_18:1 | 903.29 | ± | 75.12 | 877.27 | ± | 127.64 | 0.8621 |
| TG | 18:1_18:1_18:1 | 2783.93 | ± | 261.29 | 3530.68 | ± | 545.73 | 0.2202 |
| TG | 18:1_18:1_18:2 | 5885.17 | ± | 500.39 | 7528.91 | ± | 1030.62 | 0.1577 |
| TG | 18:1_18:1_20:4 | 256.27 | ± | 17.22 | 316.68 | ± | 36.33 | 0.1389 |
| TG | 18:1_18:1_22:6 | 222.29 | ± | 18.08 | 272.78 | ± | 32.02 | 0.1831 |
| TG | 18:1_18:2_18:2 | 4017.12 | ± | 443.29 | 5135.35 | ± | 811.81 | 0.2366 |
| TG | 18:2_18:2_18:2 | 825.35 | ± | 123.71 | 1184.97 | ± | 231.04 | 0.1805 |
| TG | 18:2_18:2_20:4 | 135.13 | ± | 15.87 | 182.30 | ± | 29.39 | 0.1692 |

**Supplemental Table S4**

Quadriceps phospholipid species in wild type (WT) and dysferlin-deficient (BLAJ) mice, presented as absolute units relative to protein mass. Phosphatidylcholine (PC), alkylphosphatidylcholine (PC(O)), alkenylphosphatidylcholine (PC(P)), lysophosphatidylcholine (LPC), lysoalkylphosphatidylcholine (LPC(O)), lysoalkenylphosphatidylcholine (LPC(P)), phosphatidylethanolamine (PE), alkylphosphatidylethanolamine (PE(O)), alkenylphosphatidylethanolamine (PE(P)), lysophosphatidylethanolamine (LPE), lysoalkenylphosphatidylethanolamine (LPE(P)), phosphatidylinositol (PI), lysophosphatidylinositol (LPI), and phosphatidylserine (PS). N = 12 WT, N = 8 BLAJ. Data are mean +/- SEM. *P < 0.05 as assessed by two-tailed unpaired t-test.

| Phospholipids | | WT | | | BLAJ | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Species | pmol/mg protein | | | pmol/mg protein | | | P value | P < 0.05 |
| PC | 14:0_16:0 | 587.64 | ± | 49.43 | 496.23 | ± | 36.65 | 0.1946 | |
| PC | 14:0_20:4 | 256.52 | ± | 20.72 | 181.87 | ± | 14.76 | 0.0165 | * |
| PC | 14:0_22:6 | 292.75 | ± | 23.61 | 172.50 | ± | 15.82 | 0.0014 | * |
| PC | 15-MHDA_18:1 | 48.35 | ± | 5.06 | 70.48 | ± | 7.54 | 0.0205 | * |
| PC | 15-MHDA_18:2 | 145.64 | ± | 16.15 | 192.45 | ± | 21.30 | 0.0922 | |
| PC | 15-MHDA_20:4 | 107.34 | ± | 11.24 | 101.92 | ± | 8.26 | 0.7293 | |
| PC | 15-MHDA_22:6 | 101.79 | ± | 9.88 | 77.73 | ± | 6.44 | 0.0867 | |
| PC | 15:0_20:3 | 46.14 | ± | 4.73 | 51.18 | ± | 3.36 | 0.4444 | |
| PC | 15:0_20:4 | 86.78 | ± | 8.86 | 84.41 | ± | 5.78 | 0.8443 | |
| PC | 15:0_22:6 | 129.15 | ± | 12.42 | 107.03 | ± | 8.11 | 0.2013 | |
| PC | 16:0_16:0 | 2158.11 | ± | 159.81 | 3012.60 | ± | 327.40 | 0.0183 | * |
| PC | 16:0_18:0 | 182.53 | ± | 16.89 | 424.23 | ± | 70.55 | 0.0009 | * |
| PC | 16:0_18:1 | 9587.11 | ± | 939.80 | 15766.21 | ± | 1757.59 | 0.0034 | * |
| PC | 16:0_18:2 | 11352.05 | ± | 1160.89 | 14585.15 | ± | 1104.92 | 0.0715 | |
| PC | 16:0_18:3 (a) | 998.19 | ± | 72.03 | 959.91 | ± | 61.03 | 0.7110 | |
| PC | 16:0_18:3 (b) | 127.70 | ± | 11.86 | 134.27 | ± | 8.95 | 0.6925 | |
| PC | 16:0_20:3 (a) | 1708.97 | ± | 139.37 | 1749.25 | ± | 125.55 | 0.8424 | |
| PC | 16:0_20:3 (b) | 209.76 | ± | 16.66 | 220.56 | ± | 18.28 | 0.6748 | |
| PC | 16:0_20:4 | 182.56 | ± | 17.85 | 235.44 | ± | 28.69 | 0.1151 | |
| PC | 16:0_20:5 | 292.43 | ± | 24.06 | 239.38 | ± | 19.98 | 0.1340 | |
| PC | 16:0_22:6 | 8352.69 | ± | 433.54 | 7885.63 | ± | 320.98 | 0.4426 | |
| PC | 16:1_18:2 | 416.66 | ± | 44.89 | 429.97 | ± | 39.42 | 0.8374 | |
| PC | 16:1_20:4 | 612.17 | ± | 52.91 | 442.69 | ± | 38.77 | 0.0311 | * |
| PC | 16:1_22:6 | 848.10 | ± | 71.41 | 553.59 | ± | 44.91 | 0.0063 | * |
| PC | 17:0_18:1 | 193.85 | ± | 22.73 | 346.74 | ± | 48.32 | 0.0051 | * |
| PC | 17:0_18:2 | 179.11 | ± | 22.10 | 300.74 | ± | 45.09 | 0.0154 | * |
| PC | 17:0_20:4 | 215.32 | ± | 24.39 | 261.36 | ± | 23.10 | 0.2101 | |
| PC | 17:0_22:6 | 189.76 | ± | 23.86 | 175.45 | ± | 20.71 | 0.6778 | |
| PC | 17:1_18:2 | 83.25 | ± | 9.70 | 102.69 | ± | 9.78 | 0.1922 | |
| PC | 18:0_18:1 | 692.99 | ± | 69.34 | 1884.90 | ± | 402.75 | 0.0023 | * |
| PC | 18:0_18:2 | 2038.38 | ± | 242.00 | 4196.62 | ± | 922.12 | 0.0148 | * |
| PC | 18:0_20:3 | 310.74 | ± | 30.77 | 491.27 | ± | 90.54 | 0.0414 | * |
| PC | 18:0_20:4 | 2164.87 | ± | 212.03 | 3260.35 | ± | 433.43 | 0.0218 | * |
| PC | 18:0_22:4 | 69.83 | ± | 9.14 | 215.20 | ± | 48.04 | 0.0020 | * |
| PC | 18:0_22:5 (n3) | 434.75 | ± | 46.48 | 638.55 | ± | 130.29 | 0.1056 | |
| PC | 18:0_22:5 (n6) | 131.67 | ± | 25.81 | 136.97 | ± | 36.53 | 0.9042 | |
| PC | 18:0_22:6 | 1637.48 | ± | 230.65 | 1895.94 | ± | 405.51 | 0.5584 | |
| PC | 18:1_18:1 | 1061.47 | ± | 112.31 | 2203.22 | ± | 276.27 | 0.0004 | * |
| PC | 18:1_18:2 | 1929.91 | ± | 202.16 | 3292.03 | ± | 335.69 | 0.0016 | * |
| PC | 18:1_20:3 | 291.38 | ± | 26.59 | 346.37 | ± | 31.22 | 0.2005 | |
| PC | 18:1_22:6 (a) | 1108.83 | ± | 110.16 | 1199.60 | ± | 104.97 | 0.5781 | |
| PC | 18:1_22:6 (b) | 160.75 | ± | 17.14 | 168.52 | ± | 26.79 | 0.8001 | |
| PC | 18:2_18:2 | 1022.63 | ± | 108.83 | 1533.44 | ± | 186.56 | 0.0208 | * |
| PC | 18:2_20:5 | 202.03 | ± | 17.48 | 130.73 | ± | 9.85 | 0.0062 | * |
| PC | 20:0_20:4 | 11.44 | ± | 1.24 | 25.81 | ± | 4.59 | 0.0021 | * |
| PC | 28:0 | 21.25 | ± | 1.77 | 15.79 | ± | 1.28 | 0.0364 | * |
| PC | 31:0 (a) | 146.57 | ± | 10.52 | 99.99 | ± | 7.28 | 0.0043 | * |
| PC | 31:0 (b) | 123.39 | ± | 11.53 | 159.78 | ± | 14.23 | 0.0621 | |
| PC | 31:1 | 51.33 | ± | 4.75 | 44.26 | ± | 3.40 | 0.2895 | |
| PC | 32:1 | 3419.11 | ± | 325.71 | 3094.54 | ± | 228.03 | 0.4727 | |
| PC | 32:2 | 354.90 | ± | 33.09 | 321.21 | ± | 22.54 | 0.4612 | |
| PC | 33:0 (a) | 98.70 | ± | 8.19 | 94.66 | ± | 8.15 | 0.7413 | |
| PC | 33:0 (b) | 36.88 | ± | 3.74 | 68.37 | ± | 10.33 | 0.0039 | * |
| PC | 33:1 | 411.64 | ± | 40.31 | 480.05 | ± | 39.46 | 0.2621 | |
| PC | 33:2 | 131.70 | ± | 15.01 | 173.64 | ± | 16.34 | 0.0816 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PC | 34:5 | 5.92 | ± | 0.52 | 4.45 | ± | 0.29 | 0.0455 | * |
| PC | 35:5 | 1.47 | ± | 0.16 | 1.22 | ± | 0.12 | 0.2490 | |
| PC | 36:0 | 2.83 | ± | 0.37 | 10.20 | ± | 5.37 | 0.1068 | |
| PC | 36:6 (a) | 17.57 | ± | 1.69 | 13.92 | ± | 1.03 | 0.1227 | |
| PC | 38:2 (a) | 9.72 | ± | 1.08 | 29.43 | ± | 6.40 | 0.0016 | * |
| PC | 38:2 (b) | 45.17 | ± | 5.45 | 115.57 | ± | 21.16 | 0.0012 | * |
| PC | 38:2 (c) | 11.74 | ± | 1.40 | 28.69 | ± | 5.71 | 0.0028 | * |
| PC | 38:4 (b) | 631.59 | ± | 56.84 | 1029.09 | ± | 99.90 | 0.0016 | * |
| PC | 38:5 (a) | 5654.53 | ± | 566.34 | 5392.02 | ± | 357.49 | 0.7327 | |
| PC | 38:5 (b) | 966.57 | ± | 116.79 | 735.90 | ± | 64.85 | 0.1503 | |
| PC | 38:6 (a) | 1217.36 | ± | 115.16 | 1382.43 | ± | 99.84 | 0.3260 | |
| PC | 38:7(c) | 89.48 | ± | 6.56 | 66.18 | ± | 5.70 | 0.0222 | * |
| PC | 39:5(a) | 33.65 | ± | 2.99 | 27.86 | ± | 2.07 | 0.1705 | |
| PC | 39:5(b) | 47.82 | ± | 4.47 | 51.90 | ± | 5.28 | 0.5656 | |
| PC | 40:7 (a) | 398.32 | ± | 34.51 | 328.73 | ± | 18.27 | 0.1404 | |
| PC | 40:8 | 895.14 | ± | 94.04 | 889.87 | ± | 112.31 | 0.9719 | |
| PC | O-16:0/16:0 | 41.26 | ± | 4.66 | 149.35 | ± | 30.67 | 0.0005 | * |
| PC | O-16:0/20:3 | 2.27 | ± | 0.26 | 12.96 | ± | 2.39 | 0.0000 | * |
| PC | O-16:0/20:4 | 33.35 | ± | 4.31 | 185.47 | ± | 37.26 | 0.0001 | * |
| PC | O-16:0/22:6 | 55.78 | ± | 5.67 | 60.34 | ± | 5.64 | 0.5918 | |
| PC | O-18:0/18:1 | 5.52 | ± | 0.59 | 15.75 | ± | 3.09 | 0.0010 | * |
| PC | O-18:0/20:4 | 5.92 | ± | 0.74 | 40.92 | ± | 8.63 | 0.0001 | * |
| PC | O-18:0/22:6 | 6.73 | ± | 0.69 | 8.88 | ± | 1.12 | 0.1002 | |
| PC | O-18:1/18:1 | 7.06 | ± | 0.82 | 32.59 | ± | 5.82 | 0.0000 | * |
| PC | O-18:1/18:2 | 9.31 | ± | 1.11 | 49.93 | ± | 9.42 | 0.0001 | * |
| PC | O-32:1 | 14.26 | ± | 1.38 | 25.84 | ± | 4.09 | 0.0059 | * |
| PC | O-32:2 | 1.82 | ± | 0.21 | 2.92 | ± | 0.42 | 0.0178 | * |
| PC | O-34:1 | 190.07 | ± | 19.75 | 502.67 | ± | 82.28 | 0.0003 | * |
| PC | O-34:2 (a) | 13.78 | ± | 1.37 | 23.60 | ± | 3.54 | 0.0083 | * |
| PC | O-34:2 (b) | 27.51 | ± | 3.11 | 103.14 | ± | 18.57 | 0.0001 | * |
| PC | O-34:4 | 0.35 | ± | 0.05 | 1.47 | ± | 0.31 | 0.0003 | * |
| PC | O-35:4 | 0.73 | ± | 0.08 | 2.96 | ± | 0.58 | 0.0002 | * |
| PC | O-36:0 | 1.79 | ± | 0.22 | 4.54 | ± | 0.94 | 0.0030 | * |
| PC | O-36:5 | 4.77 | ± | 0.51 | 13.13 | ± | 2.21 | 0.0003 | * |
| PC | O-38:5 | 55.34 | ± | 5.43 | 271.82 | ± | 53.65 | 0.0001 | * |
| PC | O-40:5 | 4.61 | ± | 0.48 | 14.62 | ± | 2.62 | 0.0002 | * |
| PC | O-40:7 | 22.51 | ± | 2.84 | 87.61 | ± | 15.13 | 0.0001 | * |
| PC | P-15:0/20:4 (a) | 0.35 | ± | 0.06 | 0.42 | ± | 0.07 | 0.4696 | |
| PC | P-15:0/20:4 (b) | 1.22 | ± | 0.16 | 1.88 | ± | 0.21 | 0.0212 | * |
| PC | P-16:0/14:0 | 9.67 | ± | 0.84 | 7.30 | ± | 0.65 | 0.0577 | |
| PC | P-16:0/16:0 | 75.28 | ± | 7.77 | 87.61 | ± | 10.59 | 0.3496 | |
| PC | P-16:0/16:1 | 16.25 | ± | 1.42 | 14.99 | ± | 1.48 | 0.5602 | |
| PC | P-16:0/18:1 | 88.32 | ± | 9.87 | 122.99 | ± | 12.83 | 0.0438 | * |
| PC | P-16:0/18:2 | 93.37 | ± | 10.25 | 110.45 | ± | 12.95 | 0.3120 | |
| PC | P-16:0/18:3 | 3.26 | ± | 0.36 | 3.81 | ± | 0.46 | 0.3551 | |
| PC | P-16:0/20:4 | 152.42 | ± | 14.85 | 252.15 | ± | 26.98 | 0.0025 | * |
| PC | P-16:0/20:5 | 12.19 | ± | 1.30 | 18.21 | ± | 2.77 | 0.0416 | * |
| PC | P-16:0/22:6 | 566.15 | ± | 62.57 | 575.32 | ± | 60.90 | 0.9213 | |
| PC | P-18:0/20:4 | 9.74 | ± | 0.93 | 17.38 | ± | 2.21 | 0.0020 | * |
| PC | P-18:0/22:6 | 29.54 | ± | 3.49 | 30.35 | ± | 3.71 | 0.8788 | |
| PC | P-18:1/22:6 | 49.61 | ± | 5.61 | 65.21 | ± | 6.41 | 0.0879 | |
| PC | P-20:0/20:4 | 0.42 | ± | 0.04 | 0.94 | ± | 0.16 | 0.0016 | * |
| PC | P-36:2 | 5.88 | ± | 0.71 | 7.41 | ± | 1.31 | 0.2809 | |
| PC | P-36:3 | 7.48 | ± | 0.79 | 12.73 | ± | 1.79 | 0.0073 | * |
| PC | P-38:5 (a) | 92.08 | ± | 10.43 | 177.33 | ± | 24.40 | 0.0019 | * |
| PC | P-38:5 (b) | 207.07 | ± | 19.70 | 224.36 | ± | 22.90 | 0.5784 | |
| LPC | 14:0 [sn1] | 4.11 | ± | 0.40 | 6.12 | ± | 0.71 | 0.0159 | * |
| LPC | 14:0 [sn2] | 2.21 | ± | 0.26 | 2.48 | ± | 0.23 | 0.4826 | |
| LPC | 15-MHDA [sn1] / 17:0 | 1.89 | ± | 0.22 | 4.80 | ± | 0.89 | 0.0012 | * |
| LPC | L15-MHDA [sn2] | 1.82 | ± | 0.19 | 4.31 | ± | 0.84 | 0.0027 | * |
| LPC | 15:0 [sn1] | 1.42 | ± | 0.14 | 3.33 | ± | 0.53 | 0.0006 | * |
| LPC | 15:0 [sn2] | 0.88 | ± | 0.11 | 1.38 | ± | 0.20 | 0.0254 | * |
| LPC | 16:0 [sn1] | 225.90 | ± | 22.15 | 553.66 | ± | 99.72 | 0.0011 | * |
| LPC | 16:0 [sn2] | 47.26 | ± | 4.64 | 111.39 | ± | 18.97 | 0.0010 | * |
| LPC | 16:1 [sn1] | 13.86 | ± | 1.35 | 21.98 | ± | 3.10 | 0.0145 | * |
| LPC | 16:1 [sn2] | 6.35 | ± | 0.78 | 8.14 | ± | 1.03 | 0.1737 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| LPC | 17:0 [sn1] | 3.34 | ± | 0.38 | 10.98 | ± | 2.42 | 0.0013 | * |
| LPC | L17:1 [sn2] (a) | 0.65 | ± | 0.08 | 0.97 | ± | 0.14 | 0.0449 | * |
| LPC | 17:1 [sn1] (a) / 17:1 [s | 1.55 | ± | 0.17 | 3.00 | ± | 0.41 | 0.0016 | * |
| LPC | 17:1 [sn1] (b) | 0.19 | ± | 0.03 | 0.19 | ± | 0.02 | 0.8709 | |
| LPC | 18:0 [sn1] | 73.93 | ± | 7.56 | 342.61 | ± | 81.24 | 0.0007 | * |
| LPC | 18:0 [sn2] | 10.31 | ± | 1.20 | 55.41 | ± | 13.59 | 0.0007 | * |
| LPC | 18:1 [sn1] | 55.36 | ± | 5.90 | 191.57 | ± | 37.56 | 0.0004 | * |
| LPC | 18:1 [sn2] | 35.16 | ± | 4.68 | 92.99 | ± | 17.84 | 0.0015 | * |
| LPC | 18:2 [sn1] | 58.92 | ± | 7.24 | 174.41 | ± | 38.03 | 0.0020 | * |
| LPC | 18:2 [sn2] | 48.06 | ± | 6.92 | 99.18 | ± | 19.58 | 0.0106 | * |
| LPC | 18:3 [sn1] (a)/18:3 [sr | 2.72 | ± | 0.28 | 4.26 | ± | 0.57 | 0.0152 | * |
| LPC | 18:3 [sn1] (b) | 0.17 | ± | 0.03 | 0.38 | ± | 0.08 | 0.0132 | * |
| LPC | 18:3 [sn2] (a) | 0.36 | ± | 0.04 | 0.62 | ± | 0.10 | 0.0093 | * |
| LPC | L20:0 [sn1] | 4.06 | ± | 0.53 | 16.15 | ± | 3.52 | 0.0006 | * |
| LPC | L20:0 [sn2] | 0.63 | ± | 0.09 | 2.68 | ± | 0.58 | 0.0005 | * |
| LPC | L20:1 [sn1] | 1.45 | ± | 0.16 | 6.35 | ± | 1.37 | 0.0004 | * |
| LPC | L20:1 [sn2] | 0.91 | ± | 0.10 | 3.00 | ± | 0.60 | 0.0006 | * |
| LPC | L20:2 [sn1] | 1.57 | ± | 0.19 | 4.49 | ± | 0.83 | 0.0006 | * |
| LPC | L20:2 [sn2] | 1.64 | ± | 0.18 | 3.25 | ± | 0.51 | 0.0031 | * |
| LPC | L20:3 [sn1] | 7.69 | ± | 0.89 | 13.72 | ± | 2.12 | 0.0081 | * |
| LPC | L20:3 [sn2] | 6.34 | ± | 0.87 | 8.15 | ± | 1.08 | 0.2084 | |
| LPC | L20:4 [sn1] | 57.95 | ± | 6.72 | 108.64 | ± | 15.25 | 0.0031 | * |
| LPC | L20:4 [sn2] | 48.87 | ± | 6.41 | 61.87 | ± | 7.69 | 0.2127 | |
| LPC | L20:5 [sn1] | 0.78 | ± | 0.08 | 1.16 | ± | 0.20 | 0.0655 | |
| LPC | L20:5 [sn2] | 0.57 | ± | 0.07 | 0.58 | ± | 0.10 | 0.9449 | |
| LPC | L22:4 [sn1] | 2.35 | ± | 0.30 | 8.01 | ± | 1.42 | 0.0002 | * |
| LPC | L22:4 [sn2] | 2.44 | ± | 0.33 | 5.12 | ± | 0.76 | 0.0019 | * |
| LPC | L22:5 [sn1] (n3)/L22:5 | 18.43 | ± | 2.03 | 27.12 | ± | 3.62 | 0.0366 | * |
| LPC | L22:5 [sn1] (n6) | 4.04 | ± | 0.51 | 5.43 | ± | 0.83 | 0.1464 | |
| LPC | L22:5 [sn2] (n3) | 18.66 | ± | 2.43 | 21.29 | ± | 2.42 | 0.4718 | |
| LPC | L22:6 [sn1] | 70.45 | ± | 8.94 | 105.31 | ± | 15.55 | 0.0513 | |
| LPC | L22:6 [sn2] | 48.76 | ± | 6.48 | 51.86 | ± | 5.98 | 0.7439 | |
| LPC | L26:0 [sn1] | 0.26 | ± | 0.04 | 0.17 | ± | 0.04 | 0.1072 | |
| LPC | L26:0 [sn2] | 0.04 | ± | 0.01 | 0.04 | ± | 0.01 | 0.9462 | |
| LPC | O-16:0 | 2.82 | ± | 0.29 | 15.35 | ± | 2.61 | 0.0000 | * |
| LPC | O-18:0 | 0.96 | ± | 0.10 | 4.19 | ± | 0.73 | 0.0000 | * |
| LPC | O-18:1 | 2.93 | ± | 0.28 | 17.33 | ± | 3.18 | 0.0000 | * |
| LPC | O-20:0 | 0.35 | ± | 0.04 | 0.88 | ± | 0.14 | 0.0003 | * |
| LPC | O-22:0 | 0.19 | ± | 0.02 | 0.41 | ± | 0.08 | 0.0039 | * |
| LPC | O-24:0 | 0.15 | ± | 0.01 | 0.29 | ± | 0.05 | 0.0071 | * |
| LPC | O-24:1 | 0.09 | ± | 0.01 | 0.20 | ± | 0.04 | 0.0048 | * |
| LPC | O-24:2 | 0.02 | ± | 0.00 | 0.07 | ± | 0.01 | 0.0002 | * |
| LPC | P-16:0 | 2.90 | ± | 0.28 | 4.79 | ± | 0.72 | 0.0116 | * |
| LPC | P-18:0 | 0.28 | ± | 0.02 | 0.53 | ± | 0.08 | 0.0038 | * |
| LPC | P-18:1 | 0.54 | ± | 0.05 | 0.83 | ± | 0.09 | 0.0069 | * |
| LPC | P-20:0 | 0.04 | ± | 0.01 | 0.17 | ± | 0.04 | 0.0004 | * |
| PE | 15-MHDA_20:4 | 2.52 | ± | 0.31 | 6.54 | ± | 1.23 | 0.0014 | * |
| PE | 15-MHDA_22:6 | 23.86 | ± | 2.74 | 31.55 | ± | 4.48 | 0.1374 | |
| PE | 16:0_16:1 | 45.88 | ± | 5.25 | 56.11 | ± | 6.69 | 0.2408 | |
| PE | 16:0_18:1 | 136.44 | ± | 16.15 | 457.06 | ± | 100.05 | 0.0011 | * |
| PE | 16:0_18:2 | 333.96 | ± | 38.23 | 611.08 | ± | 85.49 | 0.0038 | * |
| PE | 16:0_20:3 | 87.25 | ± | 9.73 | 170.14 | ± | 31.20 | 0.0081 | * |
| PE | 16:0_20:4 | 603.67 | ± | 57.81 | 638.70 | ± | 64.17 | 0.6959 | |
| PE | 16:0_22:6 | 4756.19 | ± | 443.72 | 3832.30 | ± | 357.30 | 0.1531 | |
| PE | 17:0_20:4 | 4.93 | ± | 0.60 | 10.76 | ± | 1.72 | 0.0016 | * |
| PE | 17:0_22:6 | 22.76 | ± | 2.52 | 23.54 | ± | 2.74 | 0.8405 | |
| PE | 18:0_18:1 | 120.02 | ± | 14.73 | 628.25 | ± | 120.61 | 0.0001 | * |
| PE | 18:0_18:2 | 587.01 | ± | 74.57 | 1270.34 | ± | 297.44 | 0.0158 | * |
| PE | 18:0_20:3 | 60.53 | ± | 6.30 | 138.63 | ± | 27.44 | 0.0037 | * |
| PE | 18:0_20:4 | 1376.72 | ± | 161.75 | 2173.96 | ± | 378.65 | 0.0422 | * |
| PE | 18:0_22:4 | 141.91 | ± | 18.14 | 448.75 | ± | 77.60 | 0.0002 | * |
| PE | 18:0_22:5 (n3) | 288.23 | ± | 33.30 | 483.02 | ± | 87.64 | 0.0283 | * |
| PE | 18:0_22:5 (n6) | 394.57 | ± | 66.04 | 326.42 | ± | 53.71 | 0.4702 | |
| PE | 18:0_22:6 | 5401.66 | ± | 625.72 | 6134.23 | ± | 984.70 | 0.5167 | |
| PE | 18:1_18:1 | 86.69 | ± | 9.50 | 388.14 | ± | 89.49 | 0.0006 | * |
| PE | 18:1_18:2 | 219.30 | ± | 24.90 | 690.51 | ± | 137.64 | 0.0007 | * |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PE | 18:1_22:6 (a) | 1100.89 | ± | 118.07 | 1702.24 | ± | 226.62 | 0.0191 | * |
| PE | 18:1_22:6 (b) | 153.65 | ± | 15.85 | 214.24 | ± | 31.76 | 0.0763 | |
| PE | 38:5 (a) | 757.78 | ± | 81.02 | 995.96 | ± | 117.87 | 0.1014 | |
| PE | 38:5 (b) | 342.88 | ± | 42.34 | 311.23 | ± | 34.81 | 0.6005 | |
| PE | O-16:0/18:2 | 2.58 | ± | 0.37 | 5.93 | ± | 1.32 | 0.0097 | * |
| PE | O-16:0/20:3 | 5.24 | ± | 0.66 | 9.43 | ± | 2.46 | 0.0656 | |
| PE | O-16:0/20:4 | 3.36 | ± | 0.49 | 9.79 | ± | 1.88 | 0.0009 | * |
| PE | O-16:0/22:4 | 5.13 | ± | 0.61 | 11.28 | ± | 1.75 | 0.0012 | * |
| PE | O-18:0/20:4 | 1.45 | ± | 0.20 | 3.10 | ± | 0.74 | 0.0203 | * |
| PE | O-18:0/22:5 (a) | 18.09 | ± | 2.87 | 24.69 | ± | 3.61 | 0.1671 | |
| PE | O-18:0/22:6 | 23.16 | ± | 2.65 | 29.52 | ± | 4.10 | 0.1879 | |
| PE | O-18:1/18:2 | 17.12 | ± | 1.97 | 50.54 | ± | 27.34 | 0.1485 | |
| PE | O-18:1/22:6 | 17.06 | ± | 1.81 | 26.46 | ± | 3.96 | 0.0266 | * |
| PE | O-34:1 | 16.16 | ± | 1.64 | 36.45 | ± | 6.87 | 0.0029 | * |
| PE | O-36:5 | 1.79 | ± | 0.34 | 4.61 | ± | 0.87 | 0.0028 | * |
| PE | O-36:6 | 1.45 | ± | 0.30 | 4.34 | ± | 1.03 | 0.0049 | * |
| PE | O-38:5 | 40.65 | ± | 4.88 | 58.87 | ± | 8.81 | 0.0660 | |
| PE | O-38:6 (a) | 49.87 | ± | 6.20 | 61.87 | ± | 7.43 | 0.2330 | |
| PE | O-38:6 (b) | 75.30 | ± | 8.77 | 122.24 | ± | 17.33 | 0.0160 | * |
| PE | P-16:0/18:1 | 81.14 | ± | 8.81 | 290.02 | ± | 81.36 | 0.0056 | * |
| PE | P-16:0/18:2 | 50.74 | ± | 5.63 | 121.41 | ± | 23.00 | 0.0022 | * |
| PE | P-16:0/18:3 | 2.94 | ± | 0.40 | 10.22 | ± | 2.44 | 0.0020 | * |
| PE | P-16:0/20:3 | 11.72 | ± | 1.38 | 29.31 | ± | 6.32 | 0.0042 | * |
| PE | P-16:0/20:4 | 262.54 | ± | 32.42 | 940.48 | ± | 182.04 | 0.0003 | * |
| PE | P-16:0/20:5 | 14.74 | ± | 1.92 | 42.47 | ± | 8.87 | 0.0017 | * |
| PE | P-16:0/22:4 | 117.79 | ± | 14.17 | 315.17 | ± | 53.50 | 0.0005 | * |
| PE | P-16:0/22:5 (n3) | 782.07 | ± | 90.77 | 1020.97 | ± | 138.33 | 0.1481 | |
| PE | P-16:0/22:5 (n6) | 147.79 | ± | 24.64 | 133.58 | ± | 14.66 | 0.6688 | |
| PE | P-16:0/22:6 | 3362.57 | ± | 371.37 | 3895.09 | ± | 348.76 | 0.3355 | |
| PE | P-18:0/18:1 | 133.49 | ± | 16.47 | 311.34 | ± | 171.96 | 0.2199 | |
| PE | P-18:0/18:2 | 46.55 | ± | 5.43 | 75.58 | ± | 14.15 | 0.0415 | * |
| PE | P-18:0/18:3 | 2.18 | ± | 0.34 | 3.37 | ± | 0.69 | 0.1052 | |
| PE | P-18:0/20:3 | 10.59 | ± | 1.12 | 19.89 | ± | 4.99 | 0.0421 | * |
| PE | P-18:0/20:4 | 170.20 | ± | 18.35 | 477.75 | ± | 80.77 | 0.0003 | * |
| PE | P-18:0/20:5 | 10.08 | ± | 1.55 | 18.98 | ± | 3.89 | 0.0261 | * |
| PE | P-18:0/22:4 | 62.78 | ± | 7.29 | 142.75 | ± | 26.76 | 0.0030 | * |
| PE | P-18:0/22:5 (n3) | 262.17 | ± | 26.36 | 265.61 | ± | 27.48 | 0.9314 | |
| PE | P-18:0/22:5 (n6) | 84.84 | ± | 12.13 | 57.32 | ± | 7.55 | 0.1060 | |
| PE | P-18:0/22:6 | 1079.58 | ± | 121.54 | 1170.48 | ± | 116.38 | 0.6139 | |
| PE | P-18:1/18:1 | 146.37 | ± | 18.88 | 433.85 | ± | 237.83 | 0.1534 | |
| PE | P-18:1/18:2 (a) | 47.88 | ± | 5.89 | 107.97 | ± | 23.03 | 0.0074 | * |
| PE | P-18:1/18:2 (b) | 3.60 | ± | 0.53 | 5.81 | ± | 1.46 | 0.1180 | |
| PE | P-18:1/20:3 | 3.76 | ± | 0.41 | 10.05 | ± | 2.34 | 0.0047 | * |
| PE | P-18:1/20:4 (a) | 135.89 | ± | 15.79 | 427.00 | ± | 74.19 | 0.0002 | * |
| PE | P-18:1/20:4 (b) | 17.56 | ± | 2.12 | 46.13 | ± | 7.63 | 0.0005 | * |
| PE | P-18:1/20:5 (a) | 5.38 | ± | 0.64 | 15.59 | ± | 2.92 | 0.0006 | * |
| PE | P-18:1/20:5 (b) | 1.03 | ± | 0.12 | 2.41 | ± | 0.58 | 0.0115 | * |
| PE | P-18:1/22:4 | 28.59 | ± | 4.40 | 97.33 | ± | 20.02 | 0.0008 | * |
| PE | P-18:1/22:5 (a) | 197.71 | ± | 22.21 | 285.25 | ± | 38.36 | 0.0483 | * |
| PE | P-18:1/22:5 (b) | 47.31 | ± | 5.55 | 49.28 | ± | 5.96 | 0.8166 | |
| PE | P-18:1/22:6 (a) | 745.07 | ± | 88.75 | 1254.41 | ± | 152.83 | 0.0063 | * |
| PE | P-18:1/22:6 (b) | 97.14 | ± | 11.47 | 124.08 | ± | 15.80 | 0.1743 | |
| PE | P-20:0/18:1 | 4.89 | ± | 0.78 | 7.93 | ± | 2.79 | 0.2291 | |
| PE | P-20:0/18:2 | 3.20 | ± | 0.45 | 4.83 | ± | 1.02 | 0.1171 | |
| PE | P-20:0/20:4 | 10.06 | ± | 1.28 | 21.48 | ± | 4.18 | 0.0066 | * |
| PE | P-20:0/22:6 | 31.09 | ± | 4.42 | 44.30 | ± | 7.10 | 0.1122 | |
| PE | P-20:1/20:4 | 1.88 | ± | 0.23 | 5.52 | ± | 0.93 | 0.0002 | * |
| PE | P-20:1/22:6 | 8.09 | ± | 1.03 | 12.51 | ± | 1.86 | 0.0374 | * |
| LPE | 16:0 [sn1] | 36.28 | ± | 2.93 | 69.30 | ± | 10.80 | 0.0025 | * |
| LPE | 16:0 [sn2] | 8.80 | ± | 0.68 | 17.55 | ± | 3.20 | 0.0047 | * |
| LPE | 18:0 [sn1] | 93.72 | ± | 8.87 | 250.22 | ± | 51.60 | 0.0019 | * |
| LPE | 18:0 [sn2] | 13.32 | ± | 1.61 | 43.33 | ± | 9.34 | 0.0012 | * |
| LPE | 18:1 [sn1] | 18.18 | ± | 1.81 | 67.41 | ± | 15.67 | 0.0012 | * |
| LPE | 18:1 [sn2] | 10.61 | ± | 1.12 | 35.26 | ± | 11.76 | 0.0191 | * |
| LPE | 18:2 [sn1] | 10.38 | ± | 0.97 | 30.99 | ± | 8.32 | 0.0072 | * |
| LPE | 18:2 [sn2] | 9.92 | ± | 1.13 | 25.20 | ± | 5.44 | 0.0038 | * |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| LPE | 20:4 [sn1] | 8.71 | ± | 1.03 | 24.22 | ± | 4.62 | 0.0009 | * |
| LPE | 20:4 [sn2] | 12.69 | ± | 1.00 | 27.06 | ± | 5.48 | 0.0057 | * |
| LPE | 22:6 [sn1] | 90.49 | ± | 7.29 | 144.05 | ± | 22.16 | 0.0153 | * |
| LPE | 22:6 [sn2] | 131.22 | ± | 9.23 | 158.49 | ± | 23.65 | 0.2351 | |
| LPE | P-16:0 | 30.21 | ± | 2.84 | 77.40 | ± | 11.64 | 0.0002 | * |
| LPE | P-18:0 | 14.57 | ± | 1.28 | 32.05 | ± | 5.86 | 0.0025 | * |
| LPE | P-18:1 | 13.63 | ± | 1.28 | 33.53 | ± | 6.23 | 0.0014 | * |
| LPE | P-20:0 | 0.41 | ± | 0.07 | 1.48 | ± | 0.40 | 0.0046 | * |
| PI | 16:0_16:1 | 19.03 | ± | 2.21 | 21.16 | ± | 2.00 | 0.5089 | |
| PI | 16:0_20:4 | 203.03 | ± | 18.99 | 326.57 | ± | 38.44 | 0.0052 | * |
| PI | 16:0/16:0 | 40.94 | ± | 6.22 | 48.86 | ± | 10.17 | 0.4901 | |
| PI | 16:0/20:3 (a) | 45.35 | ± | 4.75 | 65.71 | ± | 7.80 | 0.0293 | * |
| PI | 16:0/20:3 (b) | 8.74 | ± | 0.94 | 14.08 | ± | 2.23 | 0.0224 | * |
| PI | 18:0_18:1 | 109.24 | ± | 13.80 | 337.99 | ± | 71.23 | 0.0012 | * |
| PI | 18:0_20:3 (a) | 1178.70 | ± | 109.32 | 1173.33 | ± | 106.13 | 0.9736 | |
| PI | 18:0_20:3 (b) | 115.83 | ± | 11.71 | 134.60 | ± | 14.10 | 0.3213 | |
| PI | 18:0_20:4 | 5894.63 | ± | 563.59 | 6537.79 | ± | 596.45 | 0.4570 | |
| PI | 18:0_22:5 (n3) | 729.59 | ± | 65.38 | 645.02 | ± | 38.81 | 0.3420 | |
| PI | 18:0_22:5 (n6) | 71.09 | ± | 8.46 | 44.49 | ± | 5.11 | 0.0294 | * |
| PI | 18:0_22:6 | 601.06 | ± | 56.48 | 502.52 | ± | 48.10 | 0.2330 | |
| PI | 18:0/20:2 | 12.73 | ± | 1.64 | 24.49 | ± | 4.80 | 0.0148 | * |
| PI | 18:1/18:2 | 71.44 | ± | 7.76 | 155.44 | ± | 22.70 | 0.0007 | * |
| PI | 34:0 | 117.45 | ± | 20.12 | 159.49 | ± | 49.76 | 0.3843 | |
| PI | 34:1 | 135.85 | ± | 16.97 | 206.87 | ± | 29.31 | 0.0373 | * |
| PI | 36:2 (a+b) | 292.46 | ± | 34.60 | 558.23 | ± | 116.57 | 0.0190 | * |
| PI | 38:5 (a) | 386.32 | ± | 32.52 | 518.26 | ± | 39.71 | 0.0193 | * |
| PI | 38:5 (b) | 79.74 | ± | 7.60 | 101.30 | ± | 8.98 | 0.0857 | |
| PI | 38:6 | 74.63 | ± | 5.78 | 78.03 | ± | 5.99 | 0.6983 | |
| PI | 40:4 | 73.83 | ± | 8.10 | 122.70 | ± | 18.33 | 0.0134 | * |
| LPI | 18:0 [sn1] | 58.77 | ± | 5.46 | 120.15 | ± | 21.01 | 0.0034 | * |
| LPI | 18:0 [sn2] | 3.87 | ± | 0.74 | 8.09 | ± | 1.09 | 0.0038 | * |
| LPI | 18:1 [sn1] | 4.55 | ± | 0.52 | 15.92 | ± | 2.61 | 0.0001 | * |
| LPI | 18:1 [sn2] | 1.13 | ± | 0.22 | 3.01 | ± | 0.44 | 0.0005 | * |
| LPI | 18:2 [sn1] | 2.15 | ± | 0.39 | 8.02 | ± | 2.04 | 0.0029 | * |
| LPI | 18:2 [sn2] | 1.71 | ± | 0.26 | 4.40 | ± | 0.88 | 0.0027 | * |
| LPI | 20:4 [sn1] | 25.60 | ± | 2.74 | 52.33 | ± | 5.56 | 0.0002 | * |
| LPI | 20:4 [sn2] | 20.89 | ± | 2.84 | 29.99 | ± | 3.61 | 0.0614 | |
| PS | 36:1 | 330.00 | ± | 38.73 | 970.02 | ± | 294.05 | 0.0163 | * |
| PS | 38:4 | 383.51 | ± | 44.18 | 997.14 | ± | 127.93 | 0.0001 | * |
| PS | 40:5 | 765.53 | ± | 60.78 | 1252.20 | ± | 124.15 | 0.0011 | * |
| PS | 40:6 | 2507.82 | ± | 193.28 | 2483.56 | ± | 153.08 | 0.9291 | |