**Table S5**

|  |  |  |  |
| --- | --- | --- | --- |
| Metabolites [μM/l] | Young-Females | Elderly-Females | Centenarians-Females |
| Mean ± SD | Mean ± SD | Mean ± SD |
| Trp | 84.0 ± 16.5 | 79.7 ± 11.9 a(\*\*) | 70.3 ± 11.6b(\*\*\*),c(\*\*\*) |
| PC32:0 | 9.67 ± 0.92 | 11.3 ± 2.62 a(\*\*) | 12.8 ± 2.45 b(\*\*\*),c(\*\*\*) |
| PC34:4 | 0.81 ± 0.25 | 1.28 ± 0.48 a(\*\*\*) | 0.86 ± 0.36 b(\*\*\*) |
| PC36:5 | 8.64 ± 1.94 | 15.3 ± 6.96 a(\*\*\*) | 11.7 ± 5.32 b(\*\*\*) |
| PC36:6 | 0.35 ± 0.08 | 0.57 ± 0.26 a(\*\*) | 0.41 ± 0.18 b(\*\*\*) |
| PC38:4 | 74.5 ± 13.5 | 109 ± 29.6 a(\*\*\*) | 87.6 ± 23.3 b(\*\*\*) |
| PC38:6 | 45.9 ± 12.43 | 62.7 ± 21.7 a(\*\*\*) | 52.2 ± 21.3 b(\*\*\*) |
| PC40:6 | 15.5 ± 6.41 | 23.8 ± 8.48 a(\*\*\*) | 18.9 ± 8.27 b(\*\*\*) |
| PC-O 32:1 | 2.09 ± 0.35 | 2.06 ± 0.55 | 2.37 ± 0.66 b(\*\*\*),c(\*\*\*) |
| PC-O 34:1 | 7.82 ± 1.13 | 8.07 ± 1.81 | 9.61 ± 2.27 b(\*\*\*),c(\*\*\*) |
| PC-O 34:3 | 5.86 ± 1.31 | 5.31 ± 1.84 | 3.90 ± 1.62 b(\*\*\*),c(\*\*\*) |
| PC-O 36:2 | 10.1 ± 1.67 | 10.04 ± 2.61 | 9.35 ± 2.41 c(\*) |
| PC-O 36:4 | 13.6 ± 1.73 | 14.6 ± 3.82 | 12.4 ± 2.68 b(\*\*\*),c(\*\*\*) |
| PC-O 38.0 | 1.24 ± 0.21 | 1.43 ± 0.41 a(\*\*\*) | 1.37 ± 0.51b(\*\*\*) |
| PC-O 38:6 | 4.58 ± 1.13 | 5.53 ± 1.43 a(\*\*\*) | 4.59 ± 1.36b(\*\*\*) |
| PC-O 40:1 | 1.23 ± 0.22 | 1.43 ± 0.41 | 1.02 ± 0.32b(\*\*\*),c(\*\*\*) |
| LPC 18:0 | 50.4 ± 16.1 | 53.7 ± 13.5 | 39.9 ± 12.24b(\*\*\*),c(\*\*\*) |
| LPC 18:2 | 56.1 ± 11.7 | 37.7 ± 12.5 a(\*\*\*) | 26.4 ± 9.77b(\*\*\*),c\*\*\*) |
| LPC 20:4 | 9.48 ± 2.99 | 9.82 ± 3.41 | 7.87 ± 2.47b(\*\*\*),c(\*\*\*) |
| SM 16:0 | 124 ± 21.1 | 129 ± 24.1 a(\*) | 139 ± 24.4b(\*\*),c(\*\*\*) |
| SM 24:0 | 22.1 ± 3.45 | 25.1 ± 5.91 | 19.7 ± 4.89b(\*\*\*),c(\*\*) |
| SM 24:1 | 55.8 ± 6.76 | 65.8 ± 12.3 a(\*\*\*) | 69.6 ± 12.26b(\*),c(\*\*\*) |
| SM-OH 22:1 | 14.5 ± 3.10 | 16.4 ± 3.80 | 11.6 ± 3.02b(\*\*\*),c(\*\*\*) |