**Supplementary Table 1: Multiple Regression Models 1 for Type of Fat Intake Predicting Serum LA, DHA, T:T and AA:DHA (mol%)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Dietary Intake, major fat classes** |  |  | **Dietary Intake, select PUFA classes**  |
|  | Total Fat | SFA | MUFA | PUFA |  |  LA |  ALA | Total ω62 | Total ω3log3 |
|  | g/d |   | g/d |  | g/d |  | g/d |  |   | g/d |  |  | g/d |  |  | g/d |  | g/day |  |
| Serum PUFAStatus |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LA** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Coeff | 0.070 |   | 0.054 |  | 0.176 |  | 0.232 |  |  | 0.234 |  |  | 2.408 |  |  | 0.233 |  | 2.585 |  |
|  SE | 0.029 |  | 0.047 |  | 0.080 |  | 0.091 |  |  | 0.096 |  |  | 0.945 |  |  | 0.096 |  | 1.391 |  |
|  P value | **0.017** |  | 0.251 |  | **0.033** |  | **0.014** |  |  | **0.018** |  |  | **0.014** |  |  | **0.018** |  | 0.068 |  |
|  R2 | 0.266 |  | 0.207 |  | 0.251 |  | 0.271 |  |  | 0.264 |  |  | 0.271 |  |  | 0.264 |  | 0.235 |  |
|  ΔR2 | 0.077 |  | 0.019 |  | 0.063 |  | 0.082 |  |  | 0.076 |  |  | 0.083 |  |  | 0.076 |  | 0.046 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **DHA** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Coeff | 0.010 |  | 0.008 |  | 0.031 |  | 0.017 |  |  | 0.012 |  |  | 0.544 |  |  | 0.012 |  | 0.781 |  |
|  SE | 0.005 |  | 0.008 |  | 0.014 |  | 0.017 |  |  | 0.018 |  |  | 0.164 |  |  | 0.018 |  | 0.236 |  |
|  P value | 0.068 |  | 0.353 |  | **0.035** |  | 0.317 |  |  | 0.505 |  |  | **0.002** |  |  | 0.494 |  | **0.002** |  |
|  R2 | 0.139 |  | 0.101 |  | 0.156 |  | 0.103 |  |  | 0.094 |  |  | 0.235 |  |  | 0.094 |  | 0.234 |  |
|  ΔR2 | 0.052 |  | 0.014 |  | 0.069 |  | 0.016 |  |  | 0.007 |  |  | 0.148 |  |  | 0.008 |  | 0.148 |  |
| RATIOS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **T:T log**  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Coeff | -0.012 |  | -0.004 |  | -0.041 |  | -0.044 |  |  | -0.043 |  |  | -0.533 |  |  | -0.043 |  | -0.446 |  |
|  SE | 0.006 |  | 0.010 |  | 0.016 |  | 0.019 |  |  | 0.020 |  |  | 0.194 |  |  | 0.020 |  | 0.184 |  |
|  P  value | **0.043** |  | 0.674 |  | **0.016** |  | **0.024** |  |  | **0.037** |  |  | **0.008** |  |  | **0.037** |  | **0.018** |  |
|  R2 | 0.391 |  | 0.347 |  | 0.409 |  | 0.401 |  |  | 0.394 |  |  | 0.422 |  |  | 0.394 |  | 0.406 |  |
|  ΔR2 | 0.046 |  | 0.002 |  | 0.064 |  | 0.056 |  |  | 0.048 |  |  | 0.076 |  |  | 0.049 |  | 0.061 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **AA:DHA** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Coeff | -0.038 |  | -0.049 |  | -0.091 |  | -0.046 |  |  | -0.025 |  |  | -2.146 |  |  | -0.026 |  | -2.666 |  |  |
|  SE | 0.021 |  | 0.033 |  | 0.059 |  | 0.069 |  |  | 0.073 |  |  | 0.657 |  |  | 0.072 |  | 0.967 |  |  |
|  P  value | 0.074 |  | 0.146 |  | 0.127 |  | 0.504 |  |  | 0.733 |  |  | **0.002** |  |  | 0.719 |  | **0.008** |  |  |
|  R2 | 0.095 |  | 0.078 |  | 0.081 |  | 0.050 |  |  | 0.045 |  |  | 0.194 |  |  | 0.045 |  | 0.155 |  |  |
|  ΔR2 | 0.053 |  | 0.035 |  | 0.039 |  | 0.008 |  |  | 0.002 |  |  | 0.151 |  |  | 0.002 |  | 0.113 |  |  |

1 Multiple regression model controlling for age, gender, energy intake (kcals) and fat malabsorption (%COA).

2Total ω6 PUFA = LA + AA

3Total ω3 PUFA = ALA + EPA + DHA

3Adequate Intake of the Dietary Reference Intakes, which denotes the recommended average daily intake level based on observed or experimentally determined approximations or estimates of nutrient intake for a group (or groups) of apparently healthy people that are assumed to be adequate [16].

p< 0.05 in **bold**