**Supplemental Table 1: Circulating concentrations of fat-soluble vitamins, B vitamins and tryptophan pathway metabolites**

|  |  |  |  |
| --- | --- | --- | --- |
|  | CAS | COD |  |
|  | Mean | SD | Mean | SD | P |
| *Fat soluble vitamins* |  |  |  |  |  |
|  all-trans retinol, umol/L | 1.96 | 0.17 | 1.73 | 0.40 | 0.22 |
|  25-OH Vitamin D (total), ng/mL | 30.7 | 7.6 | 27.9 | 6.5 | 0.52 |
|  alpha-tocopherol, umol/L | 78.7 | 11.9 | 90.6 | 12.3 | 0.12 |
|  gamma-tocopherol, umol/L | 3.85 | 0.98 | 3.88 | 0.66 | 0.94 |
| *B vitamins* |  |  |  |  |  |
|  Thiamine, nmol/L | 133 | 10 | 144 | 25 | 0.35 |
|  Thiamine monophosphate, nmol/L | 517 | 35 | 514 | 101 | 0.95 |
|  Riboflavin, nmol/L | 63.4 | 7.1 | 63.2 | 12.8 | 0.97 |
|  Flavin mononucleotide, nmol/L | 57.2 | 10.2 | 40.9 | 15.3 | 0.056 |
|  Nicotinic acid, nmol/L | <LOD |  | <LOD |  |  |
|  Nicotinamide, nmol/L | 1573 | 124 | 1853 | 364 | 0.10 |
|  N1-methylnicotinamide, nmol/L | 128 | 21 | 134 | 52 | 0.81 |
|  Pyridoxal 5'-phosphate, nmol/L | 806 | 123 | 866 | 112 | 0.40 |
|  Pyridoxal, nmol/L | 225 | 25 | 209 | 18 | 0.23 |
|  4-Pyridoxic acid, nmol/L | 50 | 6.8 | 45.5 | 7.3 | 0.29 |
|  Pyridoxine, nmol/L | 0.23 | 0.56 | <LOD |  |  |
| *Tryptophan pathway metabolites* |  |  |  |  |  |
|  Kynurenic acid, nmol/L | 76.1 | 10.1 | 75.7 | 17.1 | 0.96 |
|  Anthranilic acid, nmol/L | 58.6 | 10.1 | 62.8 | 11.3 | 0.51 |
|  3-Hydroxykynurenine, nmol/L | 26.4 | 3.3 | 25.6 | 3.3 | 0.69 |
|  Xanthurenic acid, nmol/L | 16.4 | 2.7 | 15.3 | 4.1 | 0.60 |
|  3-Hydroxyanthranilic acid, nmol/L | 9.04 | 3.21 | 10.77 | 2.22 | 0.30 |
|  Picolinic acid, nmol/L | 129 | 24 | 135 | 23 | 0.71 |
|  Quinolinic acid, nmol/L | 236 | 22 | 258 | 61 | 0.42 |
| *Others* |  |  |  |  |  |
|  Choline, umol/L | 14.7 | 1.9 | 15.4 | 2.3 | 0.57 |
|  Methylmalonic acid, umol/L | 0.45 | 0.03 | 0.46 | 0.05 | 0.89 |

CAS, casein/whey; COD, cod protein

LOD, level of detection (LODs were 1 nmol/L for pyridoxine and 20 nmol/L for nicotinic acid)

Data are presented as mean with standard deviation for N=6 rats in CAS group and N=6 rats in COD group. p <0.05 were considered significant. Groups are compared using Independent Samples T Test assuming equal variances.