Table 2. Flux balance analysis of *iADPD1*, *iADPD2*, and *iADPD3* versus *iADPDControl*.

|  |  |  |  |
| --- | --- | --- | --- |
| **Subsystem** | ***iADPD1*** | ***iADPD2*** | ***iADPD3*** |
| Acyl-CoA hydrolysis | -0.001 | 0.001 | 0.000 |
| Alanine, aspartate and glutamate metabolism | -0.148 | 0.014 | 0.000 |
| Aminoacyl-tRNA biosynthesis | 4.698 | 4.698 | 0.000 |
| Androgen metabolism | -1.426 | -0.399 | -0.001 |
| Arachidonic acid metabolism | -0.098 | 0.010 | 0.000 |
| Arginine and proline metabolism | -0.182 | -0.327 | 0.000 |
| Beta oxidation of branched-chain fatty acids (mitochondrial) | -0.049 | -0.049 | -0.049 |
| Beta oxidation of di-unsaturated fatty acids (n-6) (mitochondrial) | -0.636 | 0.002 | -0.001 |
| Beta oxidation of odd-chain fatty acids (mitochondrial) | 0.001 | -0.002 | -0.002 |
| Beta oxidation of poly-unsaturated fatty acids (mitochondrial) | 0.709 | 0.024 | 0.000 |
| Beta oxidation of unsaturated fatty acids (n-7) (mitochondrial) | -0.016 | 0.001 | -0.003 |
| Beta oxidation of unsaturated fatty acids (n-9) (mitochondrial) | 0.011 | 0.000 | 0.007 |
| Carnitine shuttle (cytosolic) | 0.012 | 0.000 | -0.001 |
| Carnitine shuttle (mitochondrial) | 0.003 | 0.000 | 0.002 |
| Cholesterol biosynthesis 1 (Bloch pathway) | 0.076 | -0.983 | 0.001 |
| Cholesterol biosynthesis 2 | 2.501 | 4.472 | 0.000 |
| Cholesterol biosynthesis 3 (Kandustch-Russell pathway) | 1.699 | 0.000 | 0.000 |
| Cholesterol metabolism | 0.067 | 4.482 | 0.000 |
| Estrogen metabolism | 2.085 | 0.000 | 0.000 |
| Fatty acid activation (endoplasmic reticular) | 0.000 | 0.000 | 0.000 |
| Fatty acid biosynthesis (even-chain) | 0.000 | 0.000 | 0.000 |
| Fatty acid desaturation (even-chain) | 0.785 | 0.000 | 0.000 |
| Fatty acid elongation (odd-chain) | -0.042 | -0.024 | 0.000 |
| Formation and hydrolysis of cholesterol esters | -0.382 | 0.004 | 0.000 |
| Fructose and mannose metabolism | -0.211 | -0.007 | 0.000 |
| Galactose metabolism | -0.008 | 0.035 | 0.000 |
| Glycine, serine and threonine metabolism | 0.276 | 0.557 | 0.000 |
| Glycolysis / Gluconeogenesis | -0.213 | 0.022 | 0.033 |
| Histidine metabolism | 0.000 | 0.000 | 0.000 |
| Leukotriene metabolism | -0.032 | 0.000 | 0.000 |
| Lysine metabolism | 0.000 | 0.000 | 0.000 |
| N-glycan metabolism | -0.784 | 0.016 | 0.000 |
| Nitrogen metabolism | 0.000 | 0.000 | 0.000 |
| Nucleotide metabolism | 0.027 | -0.028 | 0.000 |
| O-glycan metabolism | -2.346 | -4.738 | 0.000 |
| Pentose phosphate pathway | 0.127 | 0.000 | 0.000 |
| Propanoate metabolism | -0.116 | 0.020 | 0.091 |
| Protein degradation | 0.000 | 0.000 | 0.000 |
| Purine metabolism | 0.112 | -0.013 | 0.000 |
| Pyrimidine metabolism | -0.071 | -0.010 | -0.001 |
| Pyruvate metabolism | -0.183 | -0.004 | -0.077 |
| Starch and sucrose metabolism | 0.000 | 0.000 | 0.000 |
| Steroid metabolism | -0.097 | -0.295 | 0.003 |
| Terpenoid backbone biosynthesis | 0.398 | 0.187 | 0.020 |
| Valine, leucine and isoleucine degradation | 0.127 | 0.000 | 0.000 |