**Table S5** Differentially abundant metabolites in major enriched pathways

in LGA vs FGA

|  |  |  |
| --- | --- | --- |
| Metabolite Pathway | Metabolite | Log2FC |
| Alanine, aspartate and glutamate metabolism | Oxoglutaric acid | 1.72 |
| Succinate | 1.38 |
| Arginine and proline metabolism | N2-Succinyl-L-ornithine | 1.35 |
| N-Succinyl-L-glutamate 5-semialdehyde | 1.74 |
| N2-Succinyl-L-arginine | 2.01 |
| L-Arginine | 3. 45 |
| Feruloylputrescine | 2.08 |
| 4-(L-gamma-Glutamylamino)butanoate | 1.35 |
| S-Adenosylmethioninamine | -1.51 |
|  |  |  |
| Pantothenate and CoA biosynthesis | 2-Dehydropantoate | 1.09 |
| (R)-4-Dehydropantoate | 1.09 |
| Pantothenate | -2.38 |
|  |  |  |
| Phenylpropanoid biosynthesis | N1, N5, N10-Tricoumaroyl spermidine | 2.13 |
| 5-O-Caffeoylshikimic acid | -1.66 |
| Sinapate | -2.21 |
| p-Coumaroyl quinic acid | 1.77 |
| Coniferyl aldehyde | -2.30 |
| Sinapoyl aldehyde | -2.34 |
| 4-Coumaroylshikimate | -2.29 |