

**Table S1: Concentration values of the metabolites measured for babies born to mothers with GDM and healthy controls.**

| <b>Metabolite</b>           | <b>Healthy newborns<br/>median (2.5 -97.5 IQR)<br/>(<math>\mu</math>M/mM creatinine)</b> | <b>GDM newborns<br/>median (2.5 -97.5 IQR)<br/>(<math>\mu</math>M/mM creatinine)</b> | <b>P value</b> |
|-----------------------------|--|--|----------------|
| Glycine                     | 356.9 (101.8-879.5)  | 257.0 (105.5-747.6)  | 0.22           |
| Alanine                     | 83.8 (31.78-153.4)   | 66.7 (37.08-125.2)   | 0.34           |
| Serine                      | 78.4 (31.4-126.0)  | 68.0 (47.51-149.4)   | 0.51           |
| Histamine                   | 0.02 (0.0073-0.041)  | 0.02 (0.008-0.041)   | 0.08           |
| Proline                     | 22.4 (9.511-63.78)   | 24.4 (9.49-82.39)  | 0.68           |
| Valine                      | 5.7 (0.74-16.98)   | 7.032 (1.87-18.86)   | 0.08           |
| Threonine                   | 26.0 (9.1-99.45)   | 30.0 (15.16-84.91)   | 0.39           |
| Taurine                     | 924.6 (69.86-2 851)  | 1118 (91.11-2 809)   | 0.38           |
| Putrescine                  | 0.14 (0.03-3.68)   | 0.11 (0.05-1.14)   | 0.36           |
| Leucine                     | 4.4 (0.55-13.53)   | 6.3 (0.26-12.58)   | 0.14           |
| Isoleucine                  | 2.3 (0.23-6.1)   | 2.8 (0.5-7.7)  | 0.04*          |
| Asparagine                  | 3.3 (0.36-16.9)  | 2.8 (1.06-15.24)   | 0.78           |
| Aspartic acid               | 17.0 (6.26-33.0)   | 17.2 (5.37-34.65)  | 0.95           |
| Glutamine                   | 50.2 (15.47-129.3)   | 50.8 (24.58-135.8)   | 0.73           |
| Methionine                  | 1.9 (0.65-4.96)  | 2.4 (0.51-4.3)   | 0.20           |
| Dopamine                    | 0.73 (0.13-2.14)   | 1.33 (0.18-2.63)   | 0.06           |
| Histidine                   | 61.8 (18.7-193.6)  | 48.4 (29.2-169.2)  | 0.51           |
| alpha-Aminoadipic acid      | 6.6 (1.3-21.3)   | 6.7 (1.2-691.2)  | 0.71           |
| Phenylalanine               | 6.7 (4.1-14.7)   | 7.3 (4.4-12.4)   | 0.32           |
| Methionine-sulfoxide        | 1.6 (0.6-2.9)  | 1.4 (0.6-3.6)  | 0.84           |
| Arginine                    | 14.6 (7.2-30.9)  | 13.3 (6.7-29.2)  | 0.79           |
| Acetyl-ornithine            | 0.42 (0.12-3.3)  | 0.42 (0.14-3.5)  | 0.51           |
| Serotonin                   | 0.17 (0.12-0.3)  | 0.2 (0.1-0.36)   | 0.23           |
| Tyrosine                    | 6.2 (2.08-15.11)   | 5.0 (2.15-10.25)   | 0.34           |
| Asymmetric dimethylarginine | 2.2 (0.972-5.03)   | 2.3(1.4-4.327)   | 0.65           |
| Total dimethylarginine      | 11.0 (6.3-17.82)   | 11.5 (6.84-21.3)   | 0.49           |
| Tryptophan                  | 3.32 (1.88-6.17)   | 3.24 (1.85-5.54)   | 0.57           |
| Kynurenine                  | 0.1 (0.03-0.72)  | 0.1 (0.02-0.68)  | 0.26           |
| Carnosine                   | 3.05 (0.45-36.23)  | 2.45 (0.56-21.87)  | 0.76           |
| Ornithine                   | 5.7 (1.28-25.5)  | 4.7 (2.03-20.5)  | 0.53           |

|                                   |                     |                     |       |
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| Lysine                            | 52.3 (14.91-410.0)  | 43.9 (10.13-306.7)  | 0.76  |
| Spermidine                        | 0.04 (0.02-0.19)    | 0.06 (0.01-0.32)    | 0.06  |
| Sarcosine                         | 2.5 (0.67-11.36)    | 1.8 (0.51-5.194)    | 0.07  |
| Diacetylspermine                  | 0.9 (0.37-3.37)     | 0.9 (0.48-2.1)      | 0.97  |
| Tyramine                          | 0.9 (0.35-2.7)      | 0.9 (0.28-1.85)     | 0.57  |
| Creatine                          | 15.9 (4.63-455.8)   | 13.2 (5.9-241.5)    | 0.46  |
| Betaine                           | 221.3 (99.9-440.5)  | 168.8 (72.5-265.7)  | 0.05  |
| Choline                           | 16.4 (4.0-188.1)    | 16.4 (4.5-305.4)    | 0.36  |
| Trimethylamine N-oxide            | 8.12 (0.08-45.23)   | 11.76 (1.32-33.0)   | 0.09  |
| Methylhistidine                   | 50.4 (17.31-146.8)  | 48.5 (22.81-139.9)  | 0.68  |
| Beta-Hydroxybutyric acid          | 4.33 (0.71-45.0)    | 4.02 (0.78-38.0)    | 0.97  |
| alpha-Ketoglutaric acid           | 123.4 (32.80-413.8) | 81.0 (30.21-331.1)  | 0.60  |
| Citric acid                       | 395.0 (41.56-909.1) | 391.0 (39.04-796.8) | 0.34  |
| p-Hydroxyhippuric acid            | 7.4 (4.2-19.96)     | 7.5 (4.7-18.33)     | 0.87  |
| Succinic acid                     | 17.8 (6.7-85.2)     | 16.9 (4.0-43.14)    | 0.94  |
| Fumaric acid                      | 13.55 (2.05-34.0)   | 11.13 (2.25-37.7)   | 0.55  |
| Pyruvic acid                      | 36.0 (19.3-93.0)    | 33.3 (22.72-63.5)   | 0.25  |
| Hippuric acid                     | 22.0 (1.3-156.6)    | 60.0 (4.8-213.6)    | 0.13  |
| Methylmalonic acid                | 1.9 (0.42-22.51)    | 1.3 (0.42-6.64)     | 0.30  |
| Homovanillic acid                 | 0.7 (0.04-27.4)     | 0.5 (0.06-4.04)     | 0.58  |
| Indole acetic acid                | 0.3 (0.018-1.98)    | 0.3 (0.08-1.182)    | 0.81  |
| Uric acid                         | 1622 (534.8-3 698)  | 1360 (174.6-4 333)  | 0.31  |
| Glucose                           | 385.5 (94.56-1111)  | 395.9 (248.3-2159)  | 0.25  |
| Carnitine (C0)                    | 1.7 (0.8-5.9)       | 1.8 (0.8-4.4)       | 0.25  |
| L-Acetylcarnitine (C2)            | 0.8 (0.4-1.2)       | 0.9 (0.5-1.87)      | 0.09  |
| Propionylcarnitine (C3:1)         | 0.02 (0.004-0.06)   | 0.01 (0.01-0.05)    | 0.22  |
| Propionylcarnitine (C3)           | 0.03 (0.013-0.07)   | 0.03 (0.02-0.07)    | 0.66  |
| Butenylcarnitine (C4:1)           | 0.03 (0.01-0.04)    | 0.019 (0.008-0.04)  | 0.12  |
| Butyrylcarnitine (C4)             | 0.1 (0.05-0.4)      | 0.1 (0.05-0.2)      | 0.49  |
| Hydroxypropionyl carnitine (C3OH) | 0.03 (0.009-0.07)   | 0.02 (0.007-0.05)   | 0.14  |
| Tiglylcarnitine (C5:1)            | 0.06 (0.042-0.17)   | 0.07 (0.028-0.122)  | 0.84  |
| Valerylcarnitine (C5)             | 0.06 (0.02-0.3)     | 0.05 (0.020-0.253)  | 0.83  |
| Hydroxybutyryl carnitine (C4OH)   | 0.05 (0.013-0.08)   | 0.04 (0.018-0.077)  | 0.328 |
| Hexenoylcarnitine (C6:1)          | 0.01 (0.007-0.02)   | 0.01 (0.007-0.022)  | 0.42  |

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| Hexanoylcarnitine (C6)                     | 0.03 (0.017-0.04)   | 0.03 (0.015-0.05)    | 0.78 |
| Hydroxyvalerylcarnitine (C5OH)             | 0.08 (0.04-0.33)    | 0.06 (0.05-0.154)    | 0.12 |
| Octanoylcarnitine (C8)                     | 0.04 (0.02-0.1)     | 0.04 (0.02-0.4)      | 0.49 |
| Methylglutaryl carnitine (C5MDC)           | 0.06 (0.03-0.13)    | 0.05 (0.03-0.11)     | 0.45 |
| Nonaylcarnitine (C9)                       | 0.09 (0.05-0.19)    | 0.09 (0.03-0.15)     | 0.35 |
| Pimelylcarnitine (C7DC)                    | 0.05 (0.02-0.09)    | 0.042 (0.02-0.09)    | 0.30 |
| Decenoylcarnitine (C10:1)                  | 0.08 (0.05-0.2)     | 0.07 (0.033-0.19)    | 0.12 |
| Decanoylcarnitine (C10)                    | 0.07 (0.04-0.08)    | 0.06 (0.04-0.14)     | 0.30 |
| Dodecenoylcarnitine (C12:1)                | 0.06 (0.03-0.14)    | 0.06 (0.02-0.12)     | 0.73 |
| Dodecanoylcarnitine (C12)                  | 0.07 (0.05-0.14)    | 0.07 (0.03-0.28)     | 0.76 |
| Tetradecadienyl carnitine (C14:2)          | 0.01 (0.005-0.02)   | 0.01 (0.006-0.02)    | 0.92 |
| Tetradecenoylcarnitine (C14:1)             | 0.009 (0.004-0.1)   | 0.01 (0.005-0.05)    | 0.49 |
| Tetradecanoylcarnitine (C14)               | 0.019 (0.01-0.09)   | 0.019 (0.01-0.07)    | 0.64 |
| C12DC                                      | 0.04 (0.015-0.33)   | 0.04 (0.02-0.15)     | 0.75 |
| Hydroxytetradecadienyl carnitine (C14:2OH) | 0.007 (0.004-0.012) | 0.006 (0.003-0.015)  | 0.41 |
| Hydroxytetradecenoyl carnitine (C14:1OH)   | 0.007 (0.004-0.01)  | 0.008 (0.004-0.015)  | 0.43 |
| Hexadecadienyl carnitine (C16:2)           | 0.004 (0.003-0.011) | 0.004 (0.002-0.007)  | 0.13 |
| Hexadecanoylcarnitine (C16)                | 0.01 (0.006-0.02)   | 0.011 (0.006-0.071)  | 0.27 |
| Hydroxyhexadecadienyl carnitine (C16:2OH)  | 0.004 (0.002-0.007) | 0.003 (0.002-0.007)  | 0.19 |
| Hydroxyhexadecenoyl carnitine (C16:1OH)    | 0.008 (0.005-0.015) | 0.008 (0.004-0.03)   | 0.45 |
| C16OH                                      | 0.008 (0.005-0.012) | 0.007 (0.002-0.017)  | 0.60 |
| Octadecadienyl carnitine (C18:2)           | 0.003 (0.001-0.007) | 0.0020 (0.001-0.006) | 0.18 |
| Octadecenoylcarnitine (C18:1)              | 0.005 (0.003-0.01)  | 0.0042 (0.002-0.03)  | 0.30 |
| Octadecanoylcarnitine (C18)                | 0.005 (0.002-0.01)  | 0.007 (0.002-0.08)   | 0.14 |
| C18:1OH                                    | 0.005 (0.003-0.008) | 0.004 (0.002-0.011)  | 0.17 |