

Supplementary Material of:

Impact of Maternal Lifestyle and Dietary Habits during Pregnancy on Newborn Metabolic Profile

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Figure S1. C5 and C3/C16 ratio univariate statistical analysis performed by Metaboanalyst based on data from Cluster 3, considering gestational week (g.w.) and antibiotics treatment in newborn.

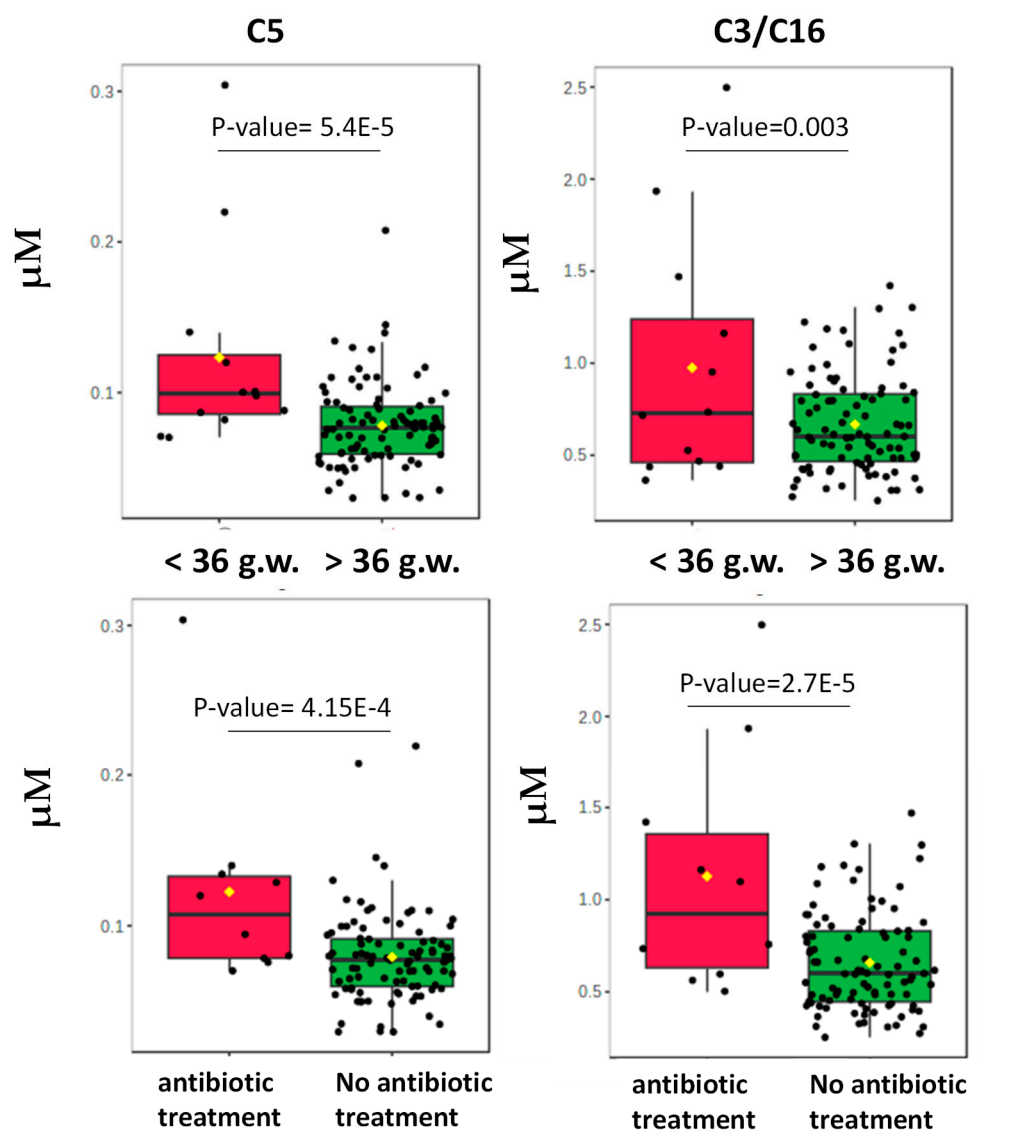


Figure S2. Pearson correlation between DBS TSH levels ($\mu\text{U/mL}$) and DBS free carnitine C0 levels (μM). R squared is 0.00011, p-value 0.91 (not significant).

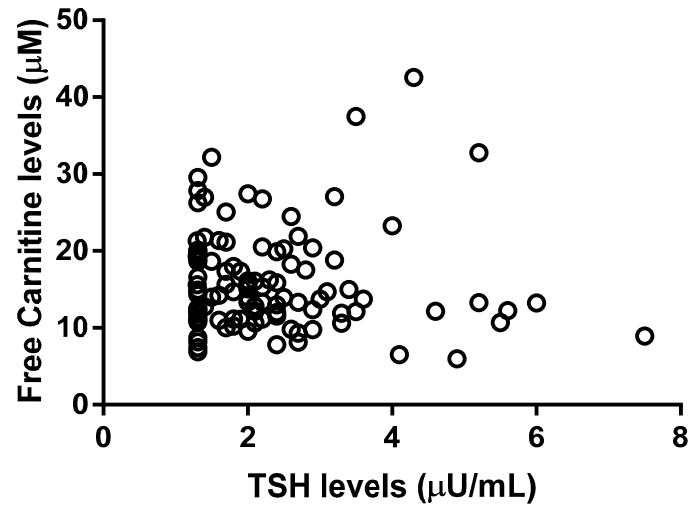


Table S1. Mass spectrometry parameters used for FIA-MS/MS analysis on RenataDX™ Screening Systems by NeoBase™ 2 Non-derivatized MSMS kit. For each analyte, MRM transition, cone voltage (V) and collision energy (eV) are shown. The internal standards (ISs) are reported in bold.

Abbreviations of analytes and ISs	Analyte	Transition	Cone potential	Collision energy
Arg ²H₄, ¹³C-Arg	Arginine	175.1>70.1 180.1>75.1	34	21
Cit 2H₂-Cit	Citrulline	176.1>113.1 178.1>115.1	24	16
Leu/Ile/Pro-OH ²H₃-Leu	Leucine/Isoleucine/Hydroxyproline	132.1>86.1 135.1>89.1	24	10
Met ²H₃-Met	Methionine	150.1>104.1 153.1>107.1	24	10
Phe ¹³C₆-Phe	Phenylalanine	166.1>120.1 172.1>126.1	25	12
Tyr ¹³C₆-Tyr	Tyrosine	182.1>136.1 188.1>142.1	26	12
Val ¹⁵N₂-¹³C₅-Val	Valine	118.1>72.1 124.1>77.1	23	10
C0 ²H₉-C0	Free carnitine	162.1>103.0 171.2>103.0	38	16
C2 ²H₃-C0	Acetylcarnitine	204.1>85.0 207.1>85.0	34	18
C3 ²H₃-C3	Propionylcarnitine	218.1>85.0 221.2>85.0	32	18
C4 ²H₃-C4	Butyrylcarnitine	232.2>85.0 235.2>85.0	36	18
C5 ²H₉-C5	Valeryl carnitine	246.2>85.0 255.2>85.0	38	20
C6 ²H₃-C6	Hexanoylcarnitine	260.2>85.0 263.2>85.0	37	20
C5DC/C6OH ²H₆-C5DC	Glutaryl carnitine/3-Hydroxy-hexanoylcarnitine	276.2>85.0 282.2>85.0	40	24
C8 ²H₃-C8	Octanoylcarnitine	288.2>85.0 291.2>85.0	42	22
C10 ²H₃-C10	Decanoylcarnitine	316.2>85.0 319.3>85.0	45	22
C12 ²H₃-C12	Dodecanoylcarnitine	344.3>85.0 347.3>85.0	46	24
C14 ²H₃-C14	Tetradecanoylcarnitine (myristoylcarnitine)	372.3>85.0 375.3>85.0	52	25
C16 ²H₃-C16	Hexadecanoylcarnitine (palmitoylcarnitine)	400.3>85.0 403.4>85.0	55	26
C18 ²H₃-C18	Octadecanoylcarnitine (stearoylcarnitine)	428.4>85.0 431.4>85.2	56	28

Table S2. Questionnaire

QUESTION	ANSWER (LEGEND)
Nationality	Italian (0)
	Albanian (1)
	Brazilian (2)
	Spain (3)
	Romanian (4)
Age	
Height (cm)	
How much weight did you gain during pregnancy? (kg)	
Pre-pregnancy weight (kg)	
Is this your first pregnancy?	Yes (0)
	No (1)
Have you had abortions?	Yes (0)
	No (1)
Did you have toxoplasmosis before pregnancy?	Yes (0)
	No (1)
Do you have any of the following or another condition?	NONE (0)
	Hypothyroidism and pathologies (1)
	Gestational diabetes (2)
	Overweight or obesity (3)
	Coagulation factor 11 deficiency (4)
	Anemia (5)
	Hypercholesterolemia (6)
Do you have any intolerance?	Yes (0)
	No (1)
Specify intolerances	NONE (0)
	Nickel lactose (1)
	Lactose, gluten (2)
	Lactose (3)
	Cheeses (4)
	Gluten (5)

	Egg (6)
	Legumes (7)
	Medicines (8)
Do you have any allergies?	Yes (0)
	No (1)
Specify allergies	None (0)
	Formaldehyde, potassium dichromate, nickel (1)
	Shellfish (2)
	Pollen (3)
	Allergic rhinoconjunctivitis (grasses) (4)
	dust, cat fur, olive on the nose (5)
	Pollen, dust (6)
	Mites (7)
	Nickel scent parietal pollen (8)
	Mold (<i>Alternaria alternata</i>) (9)
	Hazelnuts, peanuts (10)
	Allergic reaction to cortisone (11)
	Pollen, cat (12)
	Mushrooms, dust, grasses (13)
	Pollen, penicillin (14)
	Peanuts and soy (15)
	Azithromycin powder (16)
	Fluoroquinolones (17)
	Medicines (18)
	Nickel (19)
	Penicillin (20)
	Clams (21)
Did you smoke?	Yes (0)
	No (1)
Have you done any physical activity (walking, swimming, yoga, exercise bike...)?	Yes (0)
	No (1)

Have you taken any medications?	Yes (0)
	No (1)
Specify which medications you have taken	Nobody
	Tyrosint - Eutirox
	Cardioaspirin, tyrosint 25
	Aspirin
	Folic acid, cardioaspirin, nuperal (antinausea)
	Lentogest (progestogens)
	Anti nausea
	Antibiotic
	Tardifer (antianemic)
	Clexane 4000 -fluxum (anticoagulants)
	EPITARAM (antiepileptics)
	antibiotics + tachypirine
	Eutirox progesterone spasmex
	Tachipirina and anti-inflammatories
	Progestin and anticoagulant
	Antibiotics + cortisone
	Antidepressants
	Antibiotics + progestogens
	Cardioaspirin + progestogens
What type of diet did you follow?	None
	Mediterranean diet
	Gestational diabetes diet
Did you use iodized salt?	Yes (0)
	No (1)
Have you used food supplements?	Yes, occasionally
	Yes, every day
	No
What kind of supplements did you take?	Folic acid (0)
	Iron, Omega-3 (1)
	Folic acid, Vitamin D, iron (2)

	Folic acid, Iron (3)
	Salivit (4)
	Folic acid, Multivitamin (5)
	Folic acid, Iron, Probiotics (6)
	Nobody (7)
	Folic acid, Vitamin C (8)
	Iron (9)
	Folic acid, Vitamin B12, Iron, Magnesium (10)
	Folic acid, Vitamin K, Calcium, Magnesium (11)
	Also used after childbirth:
	Vitamin D (13)
	Magnesium (14)
Are you taking any medications?	Yes (0)
	No (1)
Specify which medications you are taking	Nobody (0)
	Tyrosint - Eutirox (1)
	Epitaram (2)
	Sereupin - Patoxetine (antidepressants) (3)
	Tardifer (4)
	To regulate blood pressure (5)
	Antibiotics (6)
Are you using dietary supplements?	Yes, occasionally (0)
	Yes, every day (1)
	No (2)
Toxoplasmosis test during pregnancy	Positive (0)
	Negative (1)
Do you prefer whole grains?	Yes (0)
	No (1)
What condiments do you prefer?	Extra virgin olive oil (0)
	Extra virgin olive oil, Butter (1)
	Extra virgin olive oil, seed oil, butter (2)

	Extra virgin olive oil, butter, ghee (3)
	Extra virgin olive oil, Seed oil (4)
What type of diet do you currently follow?	None (0)
	Mediterranean diet (1)
	Ketogenic (2)
Your baby is fed with	Mother's milk (0)
	Breast milk, Artificial milk (1)
	Artificial milk (2)
	Special milk (3)
What type of diet did you follow?	None (0)
	Mediterranean diet (1)
	Gestational diabetes diet (2)