

Supplementary Table 12. Modelling hippurate urinary concentrations in function of microbiome richness and phenylpropanoid metabolism modules, enterotype, individuals' age, gender and BMI and dietary habits. Dietary habits were encoded either as food categories (N=184), or summarized in two principal components (dietary PC; N=193). The contribution of each explanatory variable in an univariate modelling of urinary hippurate is first provided (with the prefix univariate). The best model (stepwise forward selection) summary statistics are reported next with the prefix multivariate. All continuous variables were rank-transformed.

Biodi- nical variables and units	Short name	High PC1		pFDR	Low PC1		pFDR	High PC2		pFDR	Low PC2		pFDR
		Median			Median			Median			Median		
		Low Hippurate	High Hippurate	Low Hippurate	High Hippurate	Low Hippurate	High Hippurate	Low Hippurate	High Hippurate	Low Hippurate	High Hippurate		
Elimination and sex	'Ageatvisit'	55.6	60.6	0.0581	55.8	55.3	0.9798	56.0	59.2	0.5988	55.5	56.3	0.9435
female (%)	'gender'	44.2	26.7		56.4	72.0		68.7	69.6		40.5	33.3	
male (%)	'gender'	55.8	73.3		43.6	28.0		31.3	30.4		59.5	66.7	
Body mass index, kg	'BMI'	32.0	25.2	0.0081	31.6	30.6	0.6384	31.1	25.7	0.3632	32.0	31.3	0.8798
weight in kg	'weight'	98.8	78.0	0.0199	91.5	83.7	0.6384	90.0	78.0	0.3632	97.3	97.1	0.9750
Waist circumference (cm)	'waist'	108.0	94.5	0.0747	106.0	103.0	0.6384	103.0	93.0	0.4276	108.0	110.5	0.9750
hip circumference (cm)	'hip'	112.0	106.0	0.0426	112.0	111.0	0.6996	112.0	106.0	0.3971	112.0	111.0	0.8798
Waist percentage (fract)	'WBTOT_P FAT'	32.4	26.0	0.0576	34.0	34.9	0.9798	36.3	33.8	0.3971	32.5	31.2	0.9435
fasting plasma-Glucose (mmol/L)	'p gluc'	5.7	5.6	0.5353	5.7	5.9	0.8156	5.6	5.6	0.9567	5.8	6.0	0.8798
fasting serum-Insulin (pmol/L)	'insu'	59.5	29.0	0.0199	49.0	37.0	0.4531	44.0	26.0	0.0317	63.0	53.0	0.8798
fasting C-peptide (pmol/L)	'c pep'	939.5	597.0	0.0192	796.0	603.0	0.6384	744.0	550.0	0.0829	900.0	804.0	0.9435
fasting assessment of insulin resistance (HOMA-IR)	'Homair'	2.3	1.1	0.0199	1.9	1.3	0.4531	1.6	0.9	0.0347	2.3	2.0	0.8798
fasting total cholesterol (mmol/L)	'p chol'	5.7	5.8	0.5370	5.4	5.5	0.8286	5.5	5.6	0.6890	5.6	5.5	0.9750
HDL-Cholesterol (mmol/L)	'hdl'	1.3	1.4	0.3621	1.4	1.5	0.9342	1.4	1.6	0.3971	1.4	1.4	0.9750
fasting total triglyceride (mmol/L)	'tri'	1.4	1.1	0.0426	1.1	1.2	0.9798	1.1	1.0	0.3971	1.3	1.3	0.9750
fasting free fatty acids (mmol/L)	'FFA'	0.5	0.4	0.1673	0.5	0.5	0.9342	0.5	0.5	0.8100	0.5	0.4	0.9750
white blood cells count (10 ⁹ /L)	'wbc'	6.0	5.6	0.2862	5.9	5.7	1.0000	5.8	5.2	0.3971	6.0	6.3	0.9435
lymphocytes count (10 ⁹ /L)	'lymph'	1.9	1.7	0.4743	1.9	1.8	0.9798	1.8	1.7	0.5877	1.9	2.0	0.8798
fasting C-reactive protein (mg/L)	'CRP'	2.2	1.0	0.0573	1.5	2.1	0.8156	1.6	1.3	0.6072	1.8	2.2	0.9750
fasting interleukin 6 (pg/mL)	'IL6'	17.2	10.5	0.1673	16.4	11.8	0.6542	12.6	17.0	0.8870	20.2	11.6	0.8798
fasting tumor necrosis factor alpha (pg/mL)	'TNFalfa'	12.7	2.0	0.3212	23.9	0.6	0.2134	16.8	0.0	0.0931	28.3	3.0	0.8798
fasting abdominal adipose tissue (cm ²)	'FAF'	83.3	63.7	0.0574	81.2	90.3	0.5284	83.5	83.8	0.9889	82.9	75.3	0.9750
fasting leptin (microgram)	'leptin'	11.3	5.6	0.0426	11.3	10.9	0.9798	13.0	9.0	0.3971	11.3	9.2	0.8798
fasting adiponectin (mg/dL)	'Adiponectin'	7.3	9.7	0.2048	8.3	11.6	0.4531	9.6	11.6	0.3971	7.2	8.0	0.9138
fasting alanine aminotransferase (U/L)	'ALAT'	22.0	14.0	0.4746	19.5	15.0	0.2134	21.0	14.0	0.0235	21.0	22.5	0.9750
Energy (KJ)	'energy'	11386.1	11293.4	0.9580	7347.2	7329.4	0.8857	8787.5	8060.2	0.5182	8169.3	9300.8	0.4391
Protein, total (g)	'protein_total'	97.8	103.5	0.9580	64.1	65.4	0.7773	78.9	67.7	0.5182	68.4	81.2	0.4391
Fat, total (g)	'fat_total'	100.7	99.7	0.9580	61.5	57.5	0.8857	69.3	57.8	0.5964	75.4	88.2	0.4391
Saturated fat (g)	'sat_fa'	34.7	36.5	0.9580	22.3	18.7	0.3461	22.9	18.7	0.5182	27.8	33.3	0.4391
Carbohydrate, total (g)	'carbo_total'	332.6	328.6	0.9580	218.6	234.2	0.7773	278.0	277.7	0.5964	222.8	262.3	0.4887
alcohol (g)	'alcohol'	9.8	16.5	0.6733	8.3	4.6	0.4755	7.2	8.0	0.5964	9.7	3.8	0.4391
fibres, total (g)	'fibre_total'	29.3	27.5	0.9580	18.9	21.8	0.3570	26.8	27.1	0.8171	17.6	20.4	0.4391
Milk (g/day)	'Milk'	314.5	308.0	0.9580	149.3	170.6	0.8857	198.4	190.0	0.7881	174.8	206.5	0.9471
Cheese (g/day)	'Cheese'	24.1	48.3	0.9580	17.3	12.5	0.4014	19.7	11.9	0.5182	20.4	29.3	0.4391
Ice cream (g/day)	'Ice-cream'	4.8	4.8	0.9580	5.1	4.8	0.4755	5.5	4.8	0.5182	4.8	4.8	0.9471
Real and starch food (g/day)	'Real and starch f'	241.9	310.5	0.4482	174.2	164.2	0.8857	188.8	178.0	0.8171	189.0	215.5	0.4391
Vegetables (g/day)	'Vegetables'	133.6	118.8	0.9580	107.3	132.0	0.3461	156.8	161.8	0.8171	95.6	98.9	0.9471
Potatoes (g/day)	'Potatoes'	127.7	192.2	0.4482	111.5	68.4	0.3461	95.2	77.1	0.6819	126.7	132.7	0.9471
Fruits (g/day)	'Fruits'	360.1	329.9	0.8937	184.9	351.5	0.3461	483.6	436.5	0.5182	125.5	128.9	0.9471

Meat (g/day)	'Meat'	123.5	147.0	0.9580	85.3	74.7	0.6998	83.7	74.6	0.5182	107.1	127.5	0.4391
Fish (g/day)	'Fish'	33.0	63.0	0.1031	26.4	27.2	0.8857	31.4	45.2	0.5182	27.1	28.2	0.9471
Poultry (g/day)	'Poultry'	25.0	22.6	0.9580	17.6	25.6	0.3570	23.9	27.6	0.7087	18.0	17.7	0.9471
Egg (g/day)	'Egg'	26.7	23.7	0.9580	17.7	15.1	0.7773	19.8	15.3	0.5182	19.6	19.6	0.9471
Spices (g/day)	'Spices'	5.6	5.8	0.9580	3.9	4.0	0.7773	3.9	4.4	0.7881	4.7	4.7	0.9471
Hydrate rich food	bohydrate rich f	913.7	908.6	0.9580	674.5	758.0	0.4755	951.7	908.6	0.6949	587.7	629.9	0.9471
Protein rich food (g/Protein.rich.foo		547.0	535.2	0.9580	279.5	278.4	0.8825	335.0	295.2	0.5182	357.8	388.7	0.9471
Food poultry and fish	ined.poultry.an	61.0	85.0	0.5475	46.4	56.2	0.4485	57.6	71.4	0.5182	45.4	53.8	0.9471