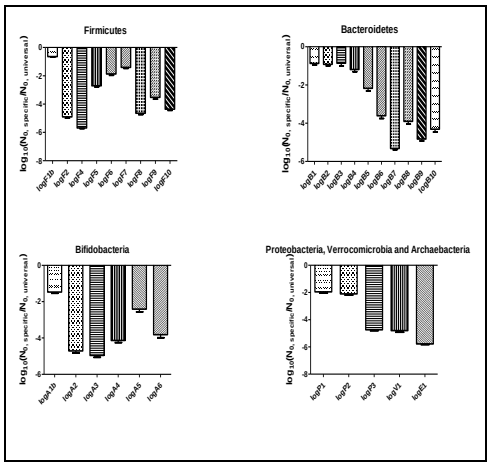
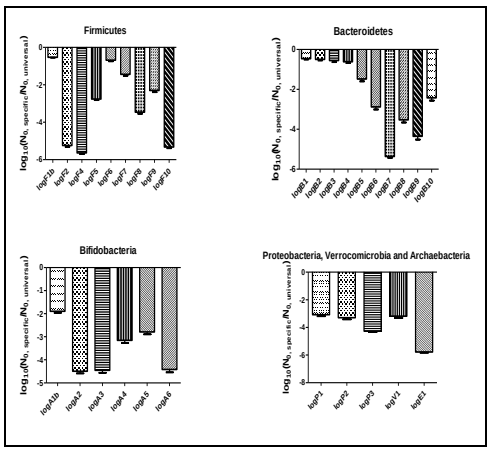
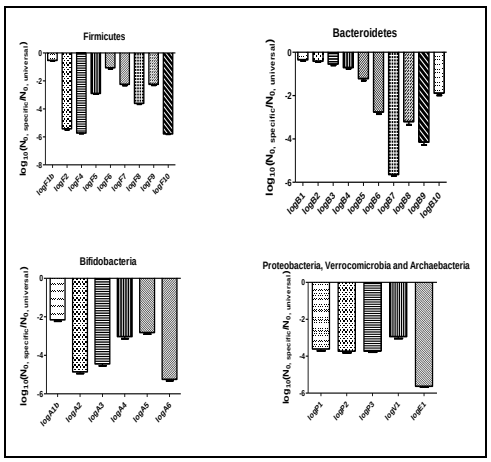
Supplemental Material

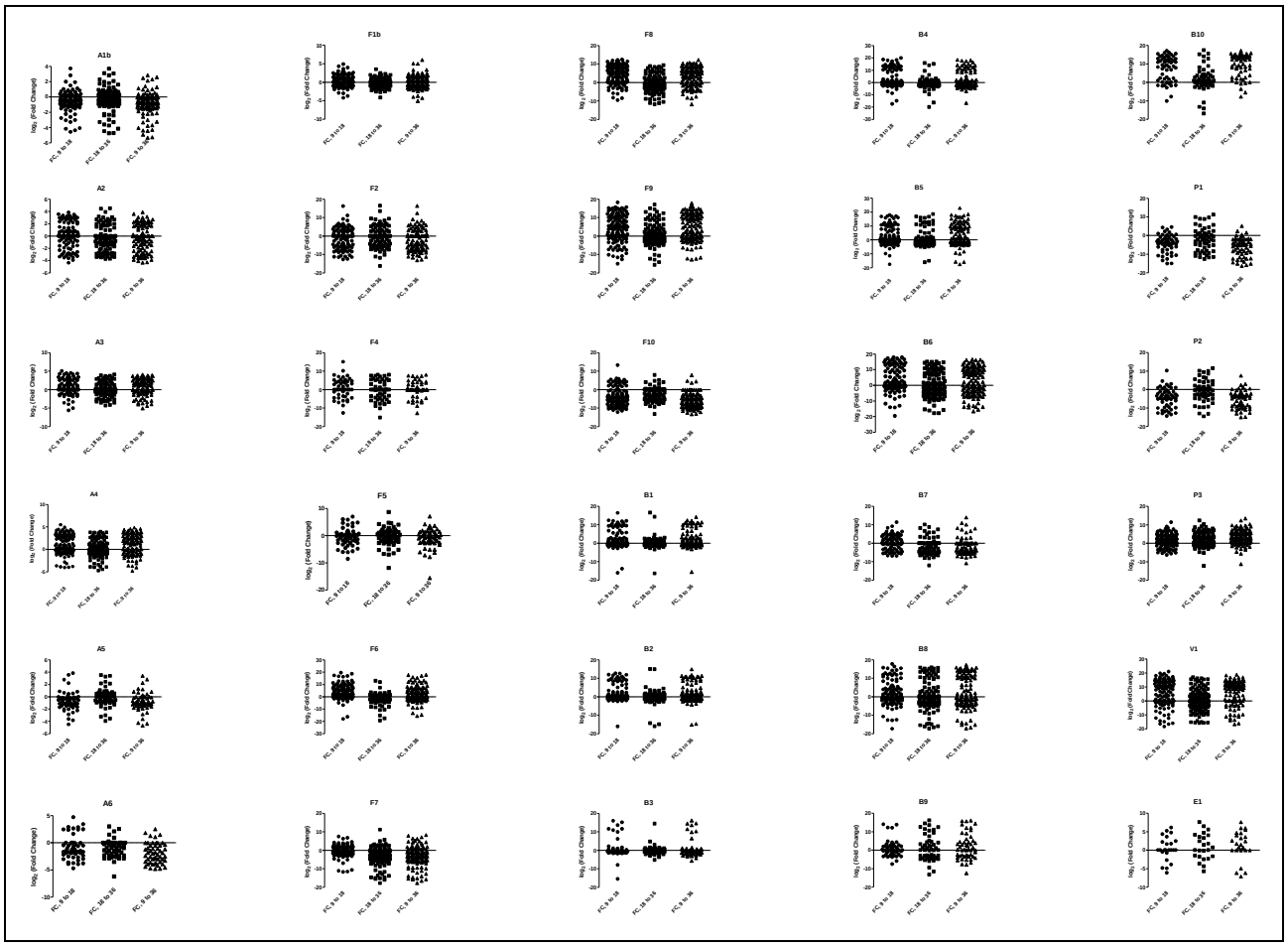
The supplemental material contains:



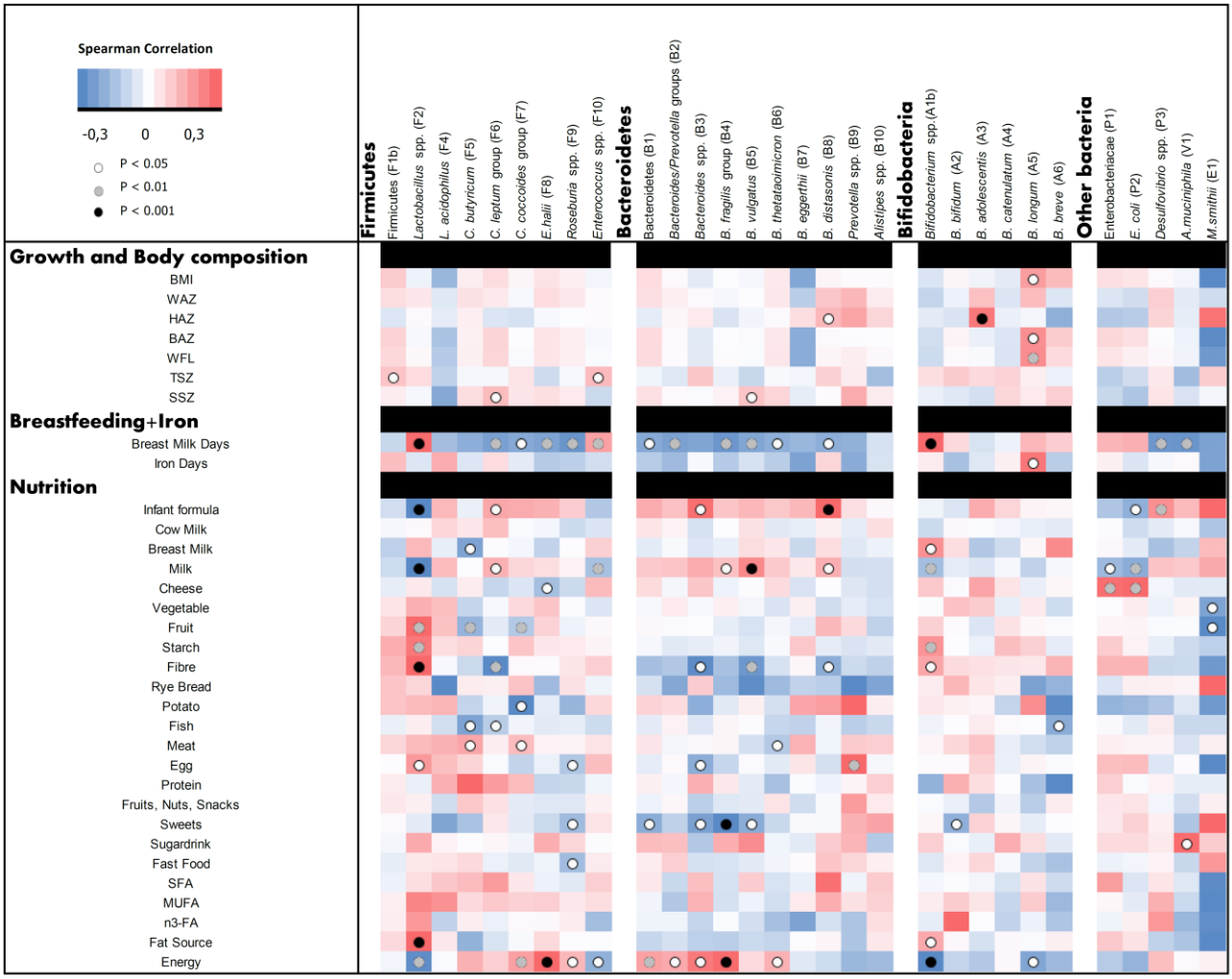




Supplemental Figure S1: **log_{10}-transformed normalized relative abundances of the 31 amplicons, named as described in Table 1, presented as mean±SEM for 9 months (first panel), 18 months (middle panel) and 36 months (last panel), respectively. Note that comparison of abundances between different amplicons does not give meaningful interpretations.**



Supplemental Figure S2: **Raw distributions (scatter plots) for the log_2 fold changes (FC) presented in Figure 2. For each amplicon, named as in Table 1, FC from 9 to 18 months, FC from 18 to 36 months, and FC from 9 to 36 months is presented.**



Supplemental Figure S3: Spearman map of correlations between gut microbiota (columns), and cohort parameters of growth, body composition, breastfeeding, iron supplementation duration and nutrition (rows) at 9 months. Color gradient denotes Spearman R value. Dots indicate significant correlations of $p<0.05$; $q=0.62$ (white), $p<0.01$; $q=0.32$ (grey) and $p<0.001$; $q=0.08$ (black), where q is false discovery rate.

Name	Explanation	9 months	18 months	36 months
Breast Milk Days	Days after birth, where infant was partially or fully breastfed	X	X	X
Iron Days	Estimated number of days with iron drop supplementation	X		

Table S1 – Quantitative estimations of breastfeeding and iron supplementation was carried out at the indicated timepoints based on parental reporting. BrMilkDays is the number of days with either partial or exclusive breastfeeding as estimated by the mothers. Iron Days was created as a continuous variable based on the individually reported frequency of iron drop supplementation.

Name	Explanation	9 months	18 months	36 months
Infant formula	Infant formula (g)	X	X	
Cow Milk	Cow milk (g)	x	X	X
Breast Milk	Breast milk intake (estimated by number of daily feedings) (g)	X		
Milk	Cow milk+infant formula+breastfeeding estimate (g)	X	X	X
Cheese	Cheese and cheese products (g)	X	X	X
Vegetable	Vegetables and vegetable products (g)	X	X	X
Fruit	Fresh, dried, frozen, fruit porridge, soup (kJ)	X	X	X
Starch	Grains, starch (g)	X	X	X
Fibre	Nutritional fibers (g)	X	X	X
Rye Bread	Danish rye bread (kJ)	X	X	X
Potato	Cooked and baked potatoes (kJ)	X	X	X
Fish	Fish and fish products (g)	X	X	X
Meat	Meat, meat products, poultry and poultry products (g)	X	X	X
Egg	Eggs and egg products (g)	X	X	X
Protein	Protein (g)	X	X	X
Fruits, Nuts, Snacks	Fruit, marmalade, sugar, nuts, almond, dried fruit (kJ)	X	X	X
Sweets	Cakes, candy, chocolate, ice-cream (kJ)	X	X	X
Sugardrink	Sugared beverages (kJ)	X	X	X
Fast Food	Burgers, hotdogs, spring rolls, French fries, pizza, sausages (kJ)	X	X	X
SFA	Saturated fatty acids (g)	X	X	X
MUFA	Mono-unsaturated fatty acids (g)	X	X	X
n3-FA	n-3 poly-unsaturated fatty acids (g)	X	X	X
Fat Source	Fats and fats products (g)	X	X	X
Energy	Total daily energy intake/weight (kg)	X	X	X

Table S2 – Nutritional parameters

At the indicated timepoints, nutritional parameters were estimated based on nutritional questionnaires as daily intake in grams (g) or kilojoule (kJ) relative to total daily intake. Energy was normalized to individual weight in kg.

Name	Explanation	Birth	5 Mo.	9 Mo.	18 Mo.	36 Mo.
BMI	Body Mass Index (Weight(kg)/[Height (m)]^2)			x	x	x
WAZ	Weight-for-age Z-score	x	x	x	x	x
HAZ	Length-for-age Z-score			x	x	x
BAZ	BMI-for-age Z-score	x	x	x	x	x
WFL	Weight-for-length/height Z-score			x	x	x
TSZ	Triceps skinfold-for-age Z-score					x
SSZ	Subscapular skinfold-for-age Z-score					x
BIA-Resistance Index	Bioimpedance, Resistance Index (cm^2/Ω)					x
BIA-predicted FFM	Bioimpedance, predicted Fat Free Mass (kg)					x
BIA-FFM Index	Bioimpedance, predicted Fat Free Mass Index (cm^2/Ω)					x
DXA-FFM	DXA-scan, Fat Free Mass (kg)					
DXA-FM	DXA-scan, Fat Mass (kg)					
DXA-FFM Index	DXA-scan, Fat Free Mass Index (cm^2/Ω)				x	
DXA-FM Index	DXA-scan, Fat Mass Index (cm^2/Ω)				x	

Table S3 – Parameters of growth and body composition were estimated at the indicated timepoints.
Mo. : Months.