Supplementary Table 1. Univariate analysis of association between maternal variables and neonatal body composition

	Neonatal Lean Body Mass			Neonatal Fat Mass			Neonatal % Body Fat		
Maternal Variables	All	Males	Females	All	Males	Females	All	Males	Females
Parity	-0.0544	-0.0827	-0.0346	-0.0008	-0.0614	0.0577	0.0392	-0.0366	0.0991
Gestational Age	**0.1964***	**0.2122***	**0.1965***	**0.1501***	**0.1636***	0.1338	**0.1271***	**0.1540***	0.0916
Age	**0.1540***	**0.1486***	0.1281	0.0903	0.11	0.0522	0.0556	0.0821	0.0211
Pre-pregnancy Weight	**0.1276***	**0.2079***	0.0593	**0.1522***	**0.2457***	0.0358	**0.1554***	**0.2423***	0.0512
Height	**0.1956***	**0.2193***	**0.1772***	0.0949	**0.1529***	0.0282	0.0557	0.1124	-0.0122
Pre-pregnancy BMI	0.0673	0.1435	-0.0073	**0.1284***	**0.2062***	0.022	**0.1453***	**0.2160***	0.0533
Net Weight Gain	**0.1398***	**0.2350***	0.0166	**0.1574***	**0.2480***	0.046	**0.1437***	**0.2336***	0.0403
Placental Weight	**0.6543***	**0.6906***	**0.5950***	**0.6107***	**0.6748***	**0.5044***	**0.5514***	**0.6271***	**0.4369***
Free Fatty Acids	0.1211	0.0745	0.2422	0.1341	0.1022	0.1969	0.1314	0.1196	0.1492
Triglycerides	0.119	0.1712	0.1012	**0.1885***	0.2103	0.1795	**0.1959***	**0.2221***	0.1766
Insulin	0.044	0.047	0.0444	**0.1357***	0.1265	0.1403	**0.1562***	0.1446	**0.1708***
Glucose	0.0848	0.0696	0.08	0.0513	0.0248	0.065	0.0319	0.0113	0.0515
HOMA-IR	0.0546	0.0472	0.0603	**0.1285***	0.1066	0.1482	**0.1435***	0.1207	**0.1721***
IL6	0.0273	-0.0195	0.1162	**0.1457***	0.1119	0.1988	**0.1873***	0.1642	**0.2155***
CRP	-0.0946	0.0307	**-0.2650***	-0.0087	0.1106	-0.2052	0.0297	0.136	-0.1632

HOMA-IR: homeostasis model assessment-estimated insulin resistance; CRP: C-reactive protein; IL6: interleukin-6. Table displays Spearman's correlation coefficients. *P<0.05 by Spearman correlation

Supplementary Table 2. Semipartial correlation coefficients for maternal factors that affected body composition in all infants at birth based on stepwise regression modeling

All (without plasma metabolites)					**All (with plasma metabolites)**			
	Factor	sr^2	P value			Factor	sr^2	P value
LBM					LBM			
n=317	Placental Weight	0.37	<0.0001		n=317	Placental Weight	0.37	<0.0001
	Gestational Age	0.04	<0.0001			Gestational Age	0.04	<0.0001
	Maternal Height	0.02	0.001			Maternal Height	0.02	0.001
	Net Weight Gain	0.01	0.008			Net Weight Gain	0.01	0.008
	Age	0.008	0.028			Age	0.008	0.028
FM					FM			
n=317	Placental Weight	0.37	<0.0001		n=121	Placental Weight	0.40	<0.0001
	Gestational Age	0.02	0.003			Gestational Age	0.02	0.015
	Net weight gain	0.02	0.003					
	Pre-pregnancy BMI	0.01	0.017					
% Fat					% Fat			
n=317	Placental Weight	0.30	<0.0001		n=121	Placental Weight	0.32	<0.0001
	Gestational Age	0.02	0.003			Gestational Age	0.02	0.002
	Pre-pregnancy BMI	0.01	0.017			Pre-pregnancy BMI	0.007	0.066
	Net weight gain	0.009	0.034					

Sr^2: Semipartial correlation coefficients estimate the degree of variance explained by each factor

Supplementary Table 3. Semipartial correlation coefficients for maternal factors (*excluding maternal plasma metabolites*) that affected body composition in male and female infants at birth based on stepwise regression modeling

Males					**Females**			
	Factor	sr^2	P value			Factor	sr^2	P value
LBM					LBM			
n=175	Placental Weight	0.39	<0.0001		n=143	Placental Weight	0.34	<0.0001
	Gestational Age	0.04	<0.0001			Gestational Age	0.05	<0.0001
	Net weight gain	0.03	0.001			Maternal Height	0.03	0.009
	Maternal Height	0.02	0.003					
FM					FM			
n=175	Placental Weight	0.35	<0.0001		n=145	Placental Weight	0.34	<0.0001
	Net weight gain	0.04	<0.0001					
	Pre-pregnancy BMI	0.02	0.009					
	Gestational Age	0.02	0.020					
% Fat					% Fat			
n=175	Placental Weight	0.31	<0.0001		n=145	Placental Weight	0.25	<0.0001
	Net weight gain	0.03	0.004					
	Gestational Age	0.02	0.013					
	Pre-pregnancy BMI	0.02	0.013					

Sr^2: Semipartial correlation coefficients estimate the degree of variance explained by each factor