

Table S1. Comparison of included and non-included participants characteristic¹

	Maternal blood					Cord blood					Colostrum				
	<i>n</i>	Included	<i>n</i>	Non-included	<i>p</i> ²	<i>n</i>	Included	<i>n</i>	Non-included	<i>p</i> ²	<i>n</i>	Included	<i>n</i>	Non-included	<i>p</i> ²
Poitiers, %	1754	50 (869)	248	40 (99)	0.004	1337	53 (708)	665	39 (260)	<0.0002	1123	34 (299)	879	60 (669)	<0.0002
Age at delivery (years)	1754	29 (5)	153	29 (5)	0.67	1337	29 (5)	570	29 (5)	0.71	1028	30 (5)	879	29 (5)	0.23
Educational attainment, %	1741		169		0.001	1326		584		0.02	1038		872		<0.0001
<high school diploma		27 (478)		42 (71)			27 (357)		33 (192)			22 (189)		35 (360)	
high school diploma		18 (314)		15 (26)			17 (232)		18 (108)			15 (135)		20 (205)	
2-year university degree		22 (384)		18 (30)			23 (305)		19 (109)			25 (214)		19 (200)	
>2-year university degree		32 (565)		25 (42)			33 (432)		30 (175)			38 (334)		26 (273)	
Monthly household income, %	1744		169		0.002	1327		586		0.90	1040		873		<0.0001
<1500 €		16 (287)		24 (40)			17 (225)		17 (102)			13 (111)		21 (216)	
1500-2300 €		29 (506)		37 (62)			29 (390)		30 (178)			27 (240)		32 (328)	
2301-3000 €		27 (466)		21 (35)			27 (354)		25 (147)			27 (237)		25 (264)	
>3000 €		28 (485)		19 (32)			27 (358)		27 (159)			33 (285)		22 (232)	
BMI before pregnancy (kg/m ²), %	1727		157		0.44	1310		574		0.05	1018		866		<0.0001
<18.5		8 (146)		10 (15)			9 (120)		7 (41)			10 (83)		8 (78)	
18.5-24.9		66 (1134)		59 (93)			66 (866)		63 (361)			70 (602)		61 (625)	
25.0-29.9		17 (298)		20 (32)			17 (221)		19 (109)			14 (120)		21 (210)	
≥30.0		9 (149)		11 (17)			8 (103)		11 (63)			7 (61)		10 (105)	
Gestational diabetes, %	1753	6 (110)	151	9 (13)	0.26	1336	6 (85)	568	7 (38)	0.79	1026	6 (49)	878	7 (74)	0.15
Hypertensive disorders during pregnancy, %	1753		151		0.96	1336		568		0.47	1026		878		0.07
Gestational hypertension		3 (51)		3 (5)			3 (36)		4 (20)			3 (30)		3 (26)	
Preeclampsia		2 (37)		2 (3)			2 (26)		2 (14)			1 (12)		3 (28)	
Smoking during pregnancy, %	1712	26 (450)	135	25 (34)	0.78	1304	27 (351)	543	24 (133)	0.28	983	23 (199)	864	29 (285)	0.004
Any breastfeeding duration (months), %	1749		142		0.80						1016		875		<0.0001
Never		27 (477)		26 (37)			29 (384)	557	23 (130)	0.12		0 (1)		50 (513)	

< 3.0	27 (464)	27 (38)	26 (346)	28 (156)	34 (296)	20 (206)
3.0-5.9	23 (398)	26 (37)	23 (301)	24 (134)	32 (284)	15 (151)
≥ 6.0	23 (410)	21 (30)	23 (303)	25 (137)	34 (294)	14 (146)

¹ Values are the mean ± SD or % (*n*). ² Student's t-test and Chi-square. Significance level was set at alpha=0.05.

Table S2. Description of maternal DP consumption in the study populations ¹

	EDEN full cohort (<i>n</i> = 1782)	Study populations		
		Maternal blood (<i>n</i> = 1754)	Cord blood (<i>n</i> = 1337)	Colostrum (<i>n</i> = 879)
DP consumption tertiles during pregnancy				
Low-consumer, g/d				
Higher-fat content DP	23 ± 11	24 ± 11	24 ± 11	25 ± 10
Lower-fat content DP	169 ± 89	169 ± 89	165 ± 91	173 ± 87
Moderate consumer, g/d				
Higher-fat content DP	58 ± 11	58 ± 11	58 ± 11	59 ± 11
Lower-fat content DP	431 ± 76	431 ± 76	430 ± 76	430 ± 75
Heavy consumer, g/d				
Higher-fat content DP	153 ± 86	153 ± 86	155 ± 86	151 ± 81
Lower-fat content DP	815 ± 229	814 ± 230	829 ± 236	806 ± 215

¹ Values are the mean ± SD.

Table S3. Description of maternal RBC membrane, cord RBC membrane and colostrum fatty acids ¹.

	Maternal blood (<i>n</i> = 1754)	Cord blood (<i>n</i> = 1337)	Colostrum (<i>n</i> = 879)
C15:0, % total fat	0.17 ± 0.03	0.12 ± 0.03	0.42 ± 0.07
C17:0, % total fat	0.31 ± 0.04	0.32 ± 0.08	0.27 ± 0.05
C18:3 n-3 (ALA), % total fat	0.10 ± 0.03	0.05 ± 0.03	0.65 ± 0.21
C20:6 n-3 (DHA), % total fat	5.32 ± 0.94	6.21 ± 0.91	0.64 ± 0.19
n-3 PUFAs, % total fat	7.80 ± 1.20	7.06 ± 1.06	2.05 ± 0.41
C18:2 n-6 (LA), % total fat	7.15 ± 0.81	2.89 ± 0.44	9.83 ± 1.83
C20:4 n-6 (AA), % total fat	12.87 ± 0.82	15.30 ± 0.90	0.86 ± 0.16
n-6 PUFAs, % total fat	25.63 ± 1.35	26.23 ± 1.11	12.18 ± 1.89
n-6:n-3 LC-PUFA ratio	2.5 ± 0.5	3.4 ± 0.6	1.8 ± 0.4

¹ Values are the mean ± SD.

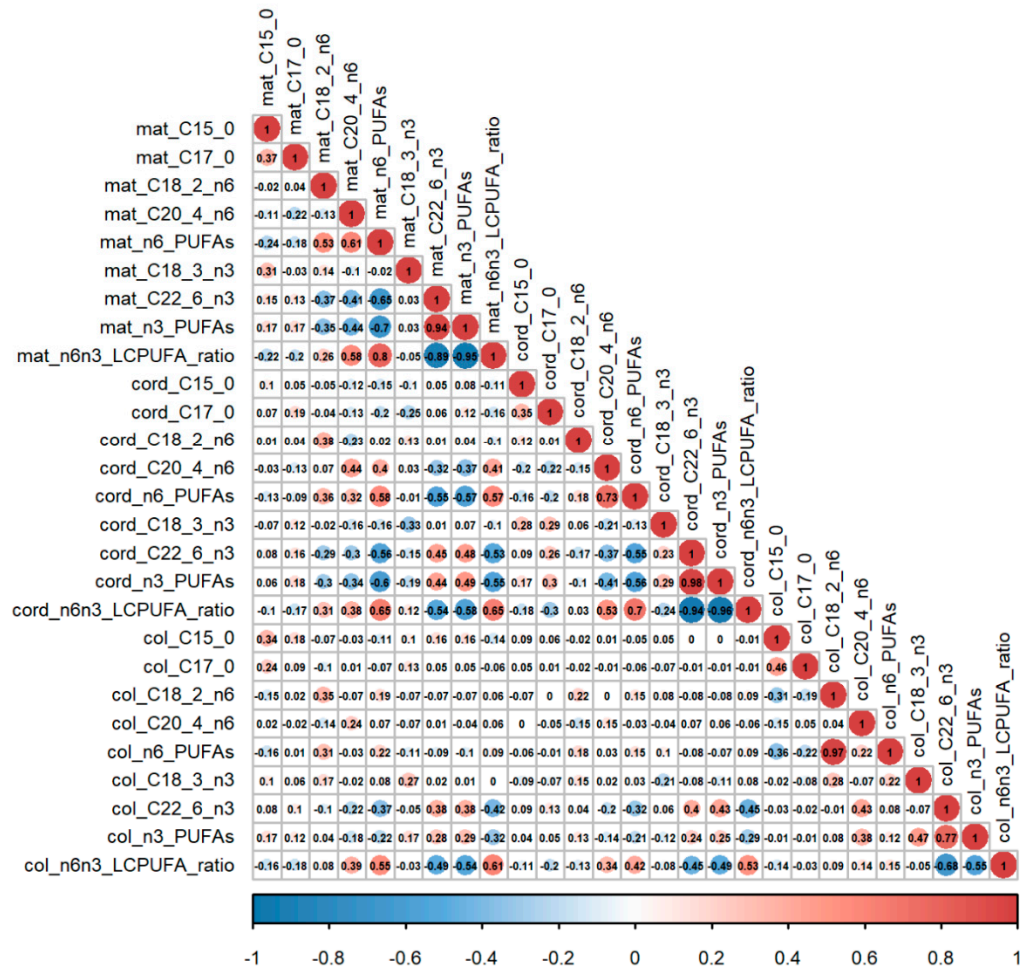


Figure S1. Heatmap of the Pearson's correlation between perinatal biofluids fatty acids concentration. Prefixes "mat_", "cord_", and "col" indicate maternal RBC membrane, cord RBC membrane and colostrum, respectively. Numbers in the cells are Pearson's correlation coefficient r . The size of the circle inside each cell represent the magnitude of the correlation.

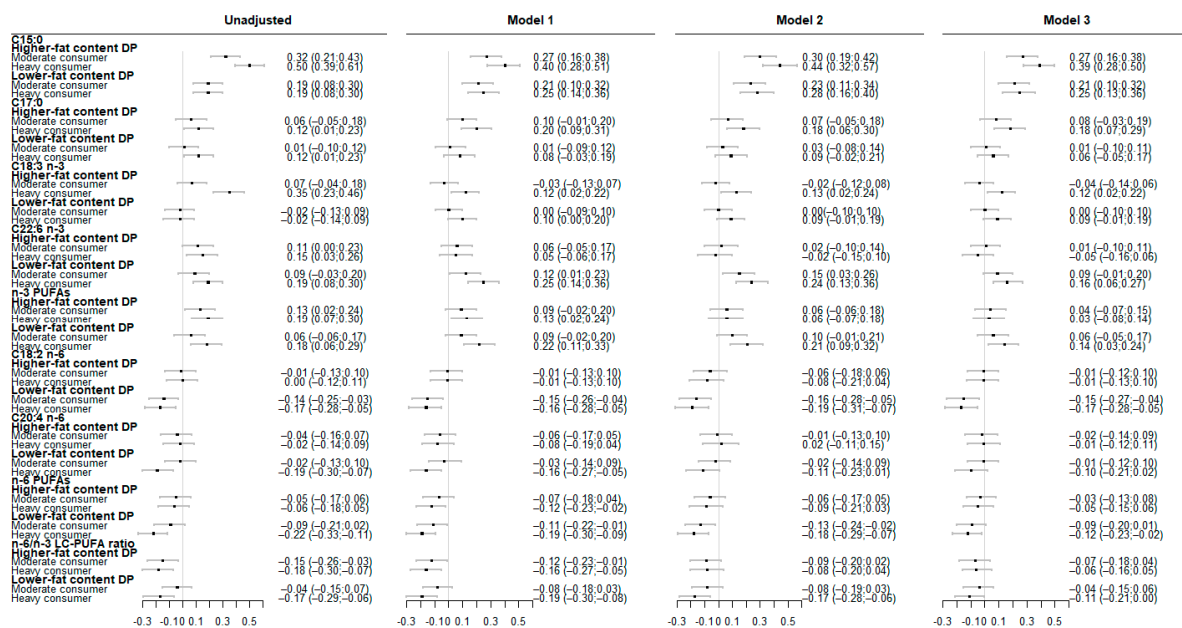


Figure S2. Associations between maternal higher-fat and lower-fat content DP consumption tertiles and fatty acids levels in maternal RBC membrane (β (95%CI)). Results are from linear regression models. Model 1 was adjusted on study center and maternal age at delivery. Model 2 was adjusted on model 1 covariates and on maternal “healthy” dietary pattern during pregnancy. Model 3 was adjusted on model 1 covariates and on the frequency of fish consumption during pregnancy. Higher-fat and lower-fat content DP consumption tertiles were studied simultaneously within each model.

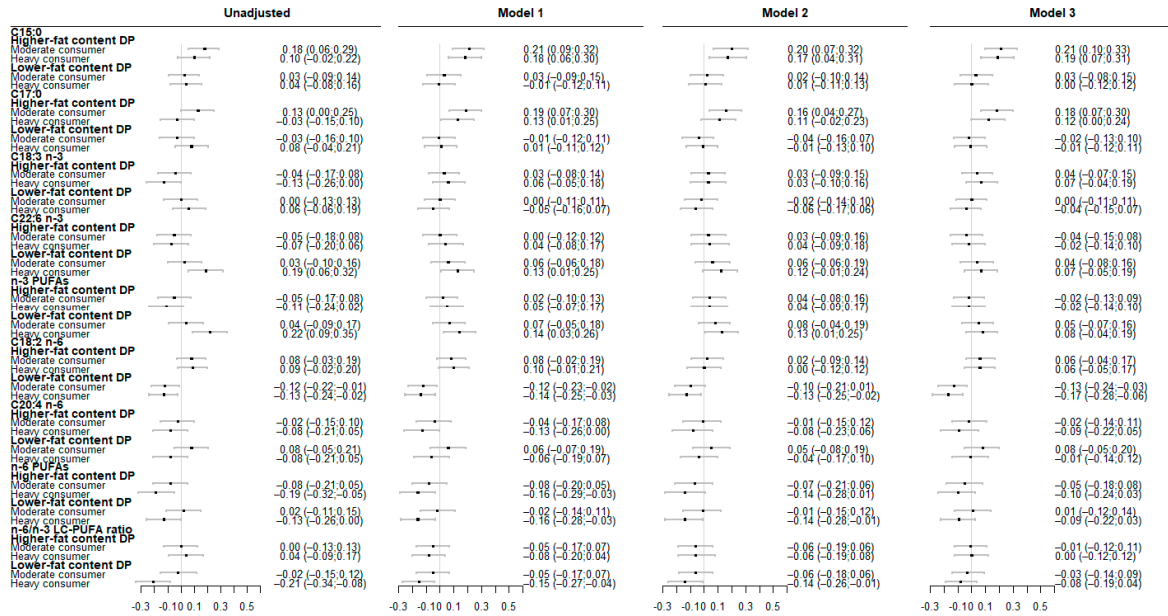


Figure S3. Associations between maternal higher-fat and lower-fat content DP consumption tertiles and fatty acids levels in cord RBC membrane (β (95%CI)). Results are from linear regression models. Model 1 was adjusted on study center and maternal age at delivery. Model 2 was adjusted on model 1 covariates and on maternal “healthy” dietary pattern during pregnancy. Model 3 was adjusted on model 1 covariates and on the frequency of fish consumption during pregnancy. Higher-fat and lower-fat content DP consumption tertiles were studied simultaneously within each model.

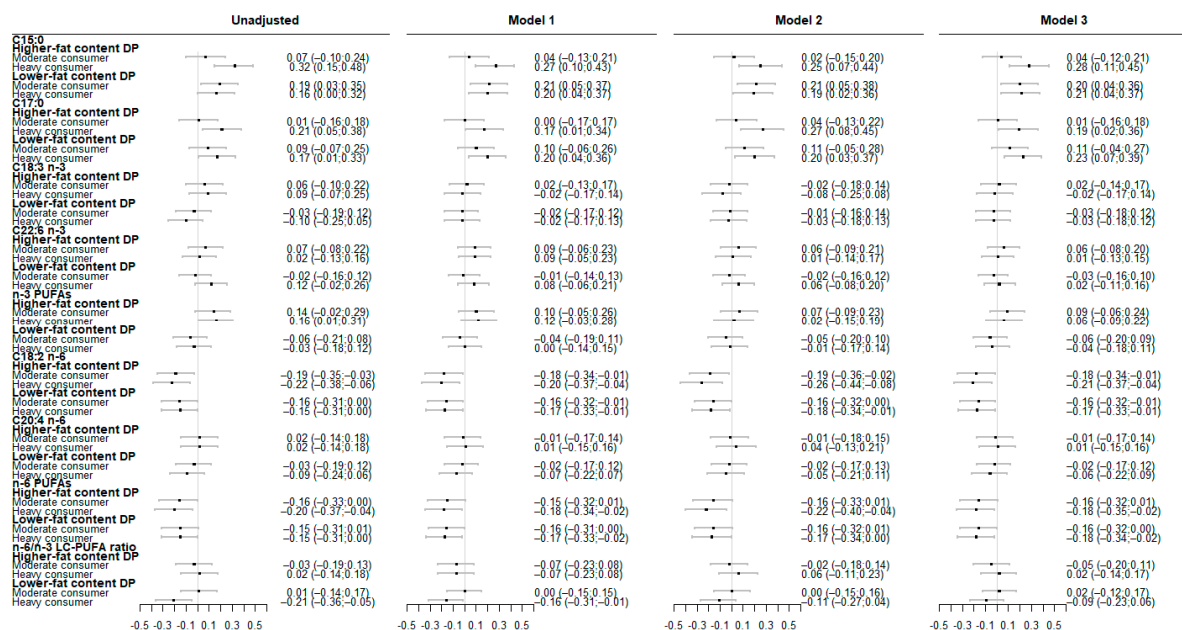


Figure S4. Associations between maternal higher-fat and lower-fat content DP consumption tertiles and fatty acids levels in colostrum (β (95%CI)). Results are from linear regression models. Model 1 was adjusted on study center and maternal age at delivery. Model 2 was adjusted on model 1 covariates and on maternal “healthy” dietary pattern during pregnancy. Model 3 was adjusted on model 1 covariates and on the frequency of fish consumption during pregnancy. Higher-fat and lower-fat content DP consumption tertiles were studied simultaneously within each model.