

**TABLE S3 (supplemental):** Dose-response effect of dietary DHA intake at constant ARA on plasma metabolite concentrations

Metabolite	Lipid Map ID <sup>a</sup>	Biosynthetic pathway	PUFA	Coefficients						P-value						FDR
				(Intercept)	DHA	Gender	DHA quadratic	DHA x Gender	DHA quadratic x Gender	(Intercept)	DHA	Gender	DHA quadratic	DHA x Gender	DHA quadratic x Gender	
9(10)-EpOME	LMFA02000037	CYP	18:2n-6 (LA)	0.56	-1.55	-0.86	1.37	3.68	-3.01	0.09	0.27	0.07	0.29	0.07	0.09	0.63
9,10-DiHOME	LMFA01050350	CYP	18:2n-6 (LA)	1.43	-2.26	-0.61	2.05	2.28	-2.04	0.00	0.03	0.05	0.04	0.08	0.08	0.15
12(13)-EpOME	LMFA02000038	CYP	18:2n-6 (LA)	0.94	-2.32	-1.22	2.14	5.35	-4.99	0.04	0.22	0.06	0.22	0.05	0.05	0.17
12,13-DiHOME	LMFA01050351	CYP	18:2n-6 (LA)	1.14	-1.15	0.06	1.18		-0.24	0.00	0.03	0.27	0.02		0.08	0.12
9-HODE	LMFA01050278	LOX	18:2n-6 (LA)	1.61	-0.96		0.96			0.00	0.11		0.08			0.20
13-HODE	LMFA01050349	LOX	18:2n-6 (LA)	1.72						0.00						1.00
13-KODE	LMFA02000016	LOX	18:2n-6 (LA)	0.53						0.00						1.00
9-HOTrE	LMFA02000024	LOX	18:3n-3 (ALA)	0.04						0.24						1.00
PGF1 $\alpha$	LMFA03010137	COX	20:3n-6 (DGLA)	0.26						0.00						1.00
PGF2 $\alpha$	LMFA03010002	COX	20:4n-6 (ARA)	0.51						0.00						1.00
PGE2	LMFA03010003	COX	20:4n-6 (ARA)	0.15	-0.40	-0.60		0.98		0.45	0.27	0.05		0.06		0.20
13,14-dihydro-15-keto-PGF2 $\alpha$	LMFA03010027	COX	20:4n-6 (ARA)	0.05	0.63	-0.77	-0.85	3.16	-2.70	0.80	0.48	0.08	0.34	0.10	0.12	0.25
TXB2	LMFA03030002	COX	20:4n-6 (ARA)	-0.05	2.81		-2.82			0.84	0.02		0.01			0.10
11-HETE	LMFA03060028	COX	20:4n-6 (ARA)	0.24						0.00						1.00

Metabolite	Lipid Map ID <sup>a</sup>	Biosynthetic pathway	PUFA	Coefficients						P-value					FDR
				(Intercept)	DHA	Gender	DHA quadratic	DHA x Gender	DHA quadratic x Gender	(Intercept)	DHA	Gender	DHA quadratic	DHA x Gender	
5,6-DiHETrE	LMFA03050004	CYP	20:4n-6 (ARA)	0.23						0.00					1.00
11,12-DiHETrE	LMFA03050008	CYP	20:4n-6 (ARA)	0.10						0.01					1.00
14,15-DiHETrE	LMFA03050010	CYP	20:4n-6 (ARA)	0.48		0.12				0.00		0.03			1.00
5-HETE	LMFA03060002	LOX	20:4n-6 (ARA)	1.24						0.00					1.00
8-HETE	LMFA03060006	LOX	20:4n-6 (ARA)	0.43						0.00					1.00
12-HETE	LMFA03060088	LOX	20:4n-6 (ARA)	0.41						0.00					1.00
15-HETE	LMFA03060001	LOX	20:4n-6 (ARA)	0.28						0.00					1.00
PGF3 $\alpha$	LMFA03010138	COX	20:5n-3 (EPA)	0.83						0.00					1.00
17,18-DiHETE	LMFA03060078	CYP	20:5n-3 (EPA)	1.44			0.31			0.00		0.00			<b>0.04</b>
5(S)-HEPE	LMFA03070010	LOX	20:5n-3 (EPA)	-0.26	0.34					0.01	0.02				0.12
19(20)-EpDPE	LMFA04000038	CYP	22:5n-3 (DHA)	1.97		-0.28				0.00		0.05			1.00
19,20-DiHDPA	LMFA04000043	CYP	22:5n-3 (DHA)	1.01			0.39			0.00		0.00			<b>0.02</b>

<sup>a</sup> Lipid classification according to LIPID MAPS Structure Database (33). Coefficient, p-value, and False Discovery Rate (FDR) for diet and gender (interaction) effects by linear mixed modeling methodology. Terms are linear unless stated otherwise (quadratic).