

**Supplemental Table 1.** Complete profile of plasma phospholipid FA concentrations averaged from samples d 1, 2, 4, 7, and 14.

Plasma Phospholipid FA <sup>2</sup> (g/100g)	Treatment <sup>1</sup>							Overall <i>P</i> -value <sup>6</sup>
	CON	FF30	FF60	FF120	L <sup>3</sup>	Q <sup>4</sup>	C <sup>5</sup>	
C12:0	0.02	0.02	0.02	0.02	0.20	0.87	0.13	0.26
C16:0	20.4	20.1	20.7	20.5	0.53	0.74	0.25	0.60
C16:1 7c/8c	0.31	0.29	0.30	0.28	0.19	0.87	0.37	0.45
C16:1 9c	0.79	0.72	0.67	0.66	0.01	0.17	0.94	0.05
C16:1 10c/13t	0.05	0.06	0.06	0.06	0.19	0.25	0.68	0.36
C16:1 11c	0.06	0.05	0.04	0.04	0.04	0.10	0.66	0.07
C17:0	0.50	0.78	0.49	0.49	0.87	0.59	0.45	0.81
C18:0	21.1	22.1	21.9	22.1	0.07	0.16	0.19	0.09
C18:1 6-8t	0.07	0.06	0.05	0.05	0.001	0.09	0.63	0.01
C18:1 9t	0.07	0.08	0.08	0.08	0.07	0.44	0.93	0.22
C18:1 10t	0.02	0.03	0.03	0.03	0.43	0.89	0.34	0.65
C18:1 11t	0.19	0.17	0.18	0.18	0.81	0.33	0.66	0.73
C18:1 12t	0.12	0.11	0.11	0.11	0.93	0.46	0.84	0.88
C18:1 6-8c/13/14t	0.15	0.14	0.12	0.13	0.40	0.16	0.34	0.31
C18:1 9c	21.0	17.9	17.1	17.0	<0.001	0.006	0.42	<0.001
C18:1 11c	2.65	2.64	2.45	2.43	0.08	0.65	0.40	0.24
C18:1 12c	0.13	0.12	0.11	0.11	0.01	0.28	0.98	0.05
C18:1 13c	0.21	0.20	0.17	0.19	0.13	0.08	0.39	0.12
C18:1 14c/16t	0.08	0.07	0.07	0.07	0.92	0.11	0.98	0.42
C19:0	0.08	0.08	0.09	0.08	0.40	0.79	0.51	0.74
C18:2 (n-6; LA)	18.2	19.9	21.0	19.7	0.22	0.04	0.87	0.12
C18:3 (n-3; ALA)	0.35	0.88	1.13	1.27	<0.001	<0.001	0.13	<0.001
CLA 9c, 11t	0.09	0.09	0.07	0.07	0.02	0.37	0.27	0.07
C20:0	0.07	0.07	0.06	0.06	0.31	0.75	0.42	0.60
C20:2 (n-6)	0.24	0.24	0.24	0.21	0.19	0.48	0.99	0.51
C20:3 (n-9)	0.22	0.20	0.13	0.17	0.20	0.10	0.30	0.16
C20:3 (n-6)	1.74	1.58	1.37	1.17	0.004	0.63	0.79	0.03

C22:0	0.04	0.04	0.04	0.04	0.76	0.82	0.84	0.98
C20:4 (n-6; ARA)	4.62	4.37	4.16	4.27	0.63	0.65	0.93	0.92
C23:0	0.08	0.08	0.09	0.10	0.13	0.67	0.80	0.45
C20:5 (n-3; EPA)	0.42	0.76	1.29	1.75	<0.001	0.02	0.65	<0.001
C24:0	0.03	0.03	0.04	0.03	0.97	0.12	0.44	0.37
C22:4 (n-6)	0.34	0.33	0.24	0.24	0.17	0.68	0.47	0.44
C22:5 (n-6)	0.11	0.12	0.08	0.08	0.23	0.64	0.35	0.46
C22:5 (n-3)	1.36	1.36	1.34	1.55	0.11	0.29	0.70	0.28
C22:6 (n-3; DHA)	1.22	1.56	1.71	2.16	<0.001	0.65	0.52	<0.001
Σ SFA	38.9	39.6	39.8	39.5	0.11	0.03	0.69	0.07
Σ MUFA	23.8	22.9	21.1	21.5	0.008	0.08	0.30	0.02
Σ PUFA	26.3	28.5	29.6	29.8	<0.001	0.02	0.85	0.002
Σ n-3 FA	3.44	4.59	5.64	6.95	<0.001	0.02	0.94	<0.001
Σ n-6 FA	25.3	26.7	27.2	25.8	0.83	0.06	0.98	0.27
Σ n-6 FA:n-3 FA	6.99	5.47	4.66	3.38	<0.001	0.42	0.68	<0.001

<sup>1</sup>Treatments (n = 6): CON = control, no supplement added to colostrum; FF30 = 30 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF60 = 60 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF120 = 120 mL 1:1 ratio fish and flaxseed oil blend added to colostrum.

<sup>2</sup>Plasma phospholipid FA: linoleic acid (LA);  $\alpha$ -linolenic acid (ALA); arachidonic acid (ARA); eicosapentaenoic acid (EPA); docosahexaenoic acid (DHA).

<sup>3</sup>L = linear polynomial contrast.

<sup>4</sup>Q = quadratic polynomial contrast.

<sup>5</sup>C = cubic polynomial contrast.

<sup>6</sup>Overall *P*-value = treatment effect *P*-value.

**Supplemental Table 2.** Least squares means of plasma oxylipid concentrations on average d 1, 2, 4, and 7.

Oxylipid <sup>2</sup> Plasma Concentrations (nM)	PUFA Substrate <sup>3</sup>	Oxidative Pathway <sup>4</sup>	Treatments <sup>1</sup>							Overall P-value <sup>8</sup>
			CON	FF3 0	FF6 0	FF12 0	L <sup>5</sup>	Q <sup>6</sup>	C <sup>7</sup>	
11,12-DHET	AA	CYP	50.6	64.7	59.2	49.9	0.59	0.13	0.37	0.39
12,13-EpOME	LA	CYP	2.78	4.93	4.36	3.82	0.51	0.1	0.29	0.23
17,18-DiHETE	EPA	CYP	2460	5340	6620	6370	0.008	0.02	0.56	0.01
12,13-DiHOME	LA	CYP	1.98	2.21	2.42	2.12	0.74	0.30	0.84	0.74
13-HODE	LA	LOX	110	137	140	129	0.37	0.10	0.65	0.29
14,15-DiHETE	EPA	CYP	163	271	335	352	0.004	0.003	0.09	<0.001
12-HHTrte	AA	COX	2.73	3.03	3.39	3.52	0.35	0.72	0.92	0.78
13-OxODE	LA	LOX	29.2	28	29.3	26.5	0.12	0.49	0.30	0.27
15-HETE	AA	LOX	14.7	16.9	16.4	19.4	0.07	0.99	0.43	0.24
15-OxoETE	AA	LOX	0.147	0.198	0.146	0.138	0.74	0.75	0.54	0.89
15d-PGJ2	AA	COX	306	256	363	265	0.80	0.55	0.21	0.55
17-HDoHE	DHA	COX/LOX	4.43	4.77	4.56	6.29	0.17	0.57	0.67	0.49
19,20-DiHDPA	DHA	CYP	216	340	330	335	0.02	0.02	0.16	0.01
19,20-EpDPE	DHA	CYP	45.4	56.2	64.9	75.4	0.03	0.53	0.96	0.14
20-HETE	AA	CYP	130	167	159	136	0.93	0.29	0.64	0.70
5,6-DiHETE	EPA	CYP	21.4	29.1	36.4	68.3	<0.001	0.85	0.76	<0.001
5,6-LXA <sub>4</sub>	AA	LOX	0.507	1.05	1.04	1.56	0.02	0.36	0.35	0.06
5-HETE	AA	LOX	7.68	9.26	10.5	11	0.06	0.35	0.98	0.20
5-OxoETE	AA	LOX	1.2	1.26	1.25	1.16	0.88	0.82	0.97	0.99
8,9-DHET	AA	CYP	12.5	17.6	12.8	13.2	0.68	0.32	0.03	0.14
9,10-DiHOME	LA	CYP	7.8	9.12	10.2	9.69	0.21	0.24	0.9	0.38
9,10-EpOME	LA	CYP	1.73	2.27	2.16	2.14	0.43	0.32	0.48	0.54
9-HETE	AA	Non	1.48	1.93	1.41	1.75	0.8	0.94	0.25	0.68
9-HODE	LA	LOX/Non	51.9	62.6	62.5	62.9	0.17	0.22	0.51	0.28

9-OxoODE	LA	LOX	50.3	53.2	53.9	53.3	0.55	0.52	0.89	0.84
LTB <sub>4</sub>	AA	LOX	0.571	0.94 1	1.25	1.07	0.03	0.03	0.97	0.03
PGD <sub>2</sub>	AA	COX	0.94	0.98	0.97	1.01	0.84	0.97	0.93	1.00
PGE <sub>2</sub>	AA	COX	3.86	8.82	5.81	8.08	0.31	0.54	0.22	0.40
Resolvin D1	DHA	LOX	0.089 3	0.14 9	0.05 3	0.072	0.22	0.75	0.03	0.09
Resolvin D2	DHA	LOX	0.703	0.71 9	0.57	0.733	0.99	0.4	0.28	0.58
TXB <sub>2</sub>	AA	COX	9.53	9.18	7.45	6.57	0.05	0.88	0.56	0.21
11,12-EET	AA	CYP	1.48	1.07	1.1	1.32	0.85	0.17	0.63	0.50

<sup>1</sup>Treatments (n = 6): CON = control, no supplement added to colostrum; FF30 = 30 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF60 = 60 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF120 = 120 mL 1:1 ratio fish and flaxseed oil blend added to colostrum.

<sup>2</sup>Oxylipids: dihydroxy-eicosatrienoic acid (DHET); epoxyoctadecenoic acid (EpOME); dihydroxy-eicosatetraenoic acid (DiHETE); dihydroxy-octadecenoic acid (DiHOME); hydroxy-octadecadienoic acid (HODE); hydroxy-heptadecatrienoic acid (HHTrte); oxo-octadecadienoic acid (OxODE); hydroxy-eicosatetraenoic acid (HETE); oxo-eicosatetraenoic acid (OxoETE); prostaglandin J (PGJ); hydroxy-docosahexaenoic acid (HDoHE); dihydroxy-docosapentaenoic acid (DiHDPA); epoxy-docosapentaenoic acid (EpDPE); lipoxin A (LXA); leukotriene B (LTB); prostaglandin D (PGD); prostaglandin E (PGE); thromboxane (TXB); epoxy-eicosatrienoic acid (EET).

<sup>3</sup>Substrates: arachidonic acid (AA); linoleic acid (LA); eicosapentaenoic acid (EPA); docosahexaenoic acid (DHA).

<sup>4</sup>Pathways: lipoxygenase (LOX); cyclooxygenase (COX); cytochrome P450 (CYP); non-enzymatic (Non).

<sup>5</sup>L = linear polynomial contrast.

<sup>6</sup>Q = quadratic polynomial contrast.

<sup>7</sup>C = cubic polynomial contrast.

<sup>8</sup>Overall *P*-value = treatment effect *P*-value.

**Supplemental Table 3.** Least squares means of plasma isoprostane concentrations on average d 1, 2, 4, and 7.

Isoprostane <sup>2</sup> Plasma Concentrations (nM)	PUFA Substrate <sup>3</sup>	Oxidative Pathway <sup>4</sup>	Treatment <sup>1</sup>				L <sup>3</sup>	Q <sup>4</sup>	C <sup>5</sup>	Overall P-value <sup>6</sup>
			CON	FF30	FF60	FF120				
6-keto-PGF <sub>1α</sub>	AA	COX	6.68	6.23	5.73	7.09	0.75	0.37	0.80	0.80
2,3-dinor-8-iso-PGF <sub>2α</sub>	AA	Non	0.221	0.306	0.283	0.332	0.37	0.71	0.60	0.73
5-iPF <sub>2α</sub> -VI	AA	Non	1.07	1.09	1.04	0.97	0.56	0.82	0.88	0.93
8-12-iso-iPF <sub>2α</sub> -VI	AA	Non	4.11	4.3	4.09	4.1	0.86	0.86	0.63	0.96
8-iso-15KETO-PGE <sub>2</sub>	AA	Non	2.09	1.78	2.13	1.97	0.98	0.91	0.27	0.72
8-iso-15R-PGF <sub>2α</sub>	AA	Non	0.345	0.365	0.407	0.591	0.13	0.72	0.99	0.46
8-iso PGA1	AA	Non	0.144	0.109	0.122	0.168	0.43	0.25	0.66	0.53
8-iso PGA2	AA	Non	0.712	0.289	0.481	0.554	0.98	0.02	0.00 <sub>8</sub>	0.01
8-iso-PGF <sub>2α</sub>	AA	Non	2.45	2.66	3.77	2.8	0.64	0.32	0.49	0.61
PGF <sub>2α</sub>	AA	COX	0.992	0.646	0.938	0.825	0.86	0.65	0.18	0.51

<sup>1</sup>Treatments (n=6): CON = control, no supplement added to colostrum; FF30 = 30 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF60 = 60 mL 1:1 ratio fish and flaxseed oil blend added to colostrum; FF120 = 120 mL 1:1 ratio fish and flaxseed oil blend added to colostrum.

<sup>2</sup>Isoprostanes: prostaglandin (PG).

<sup>3</sup>Substrate: arachidonic acid (AA).

<sup>4</sup>Pathway: cyclooxygenase (COX); non-enzymatic (Non).

<sup>5</sup>L = linear polynomial contrast.

<sup>6</sup>Q = quadratic polynomial contrast.

<sup>7</sup>C = cubic polynomial contrast.

<sup>8</sup>Overall P-value = treatment effect P-value.