

## **SUPPLEMENTAL INFORMATION**

### **Tissue specific content of polyunsaturated fatty acids in (n-3) deficiency state of rats**

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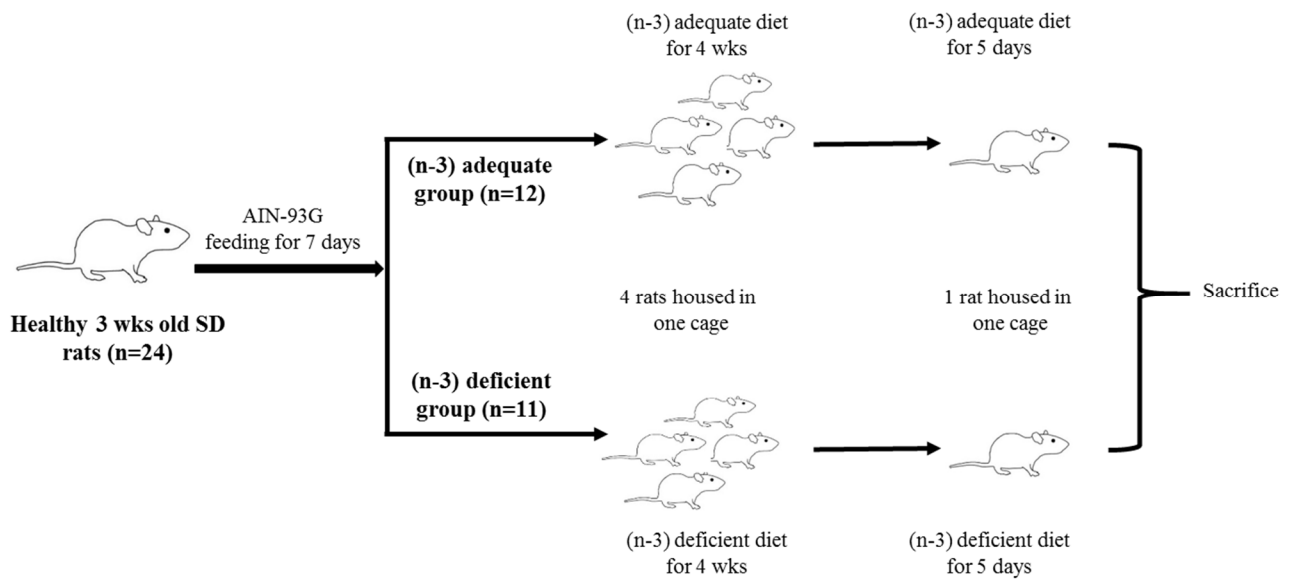
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**Supplemental Figure S1: Animal trial model diagram showing the feeding of two groups and housing system during the experiment.**



**Supplemental Table S1: Glycerol-bound fatty acids and total (free and esterified) fatty acids ( $\mu\text{g}/100 \text{ mg}$ ) excreted in the rat feces collected during the last 5 days of the experiment.**

Fatty acids	Groups <sup>1</sup>			
	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate
	Glycerol-bound fatty acids		Total fatty acids	
12:0	0.56 $\pm$ 0.14	0.54 $\pm$ 0.11	2.21 $\pm$ 0.72 <sup>a</sup>	2.83 $\pm$ 0.63 <sup>b</sup>
14:0	4.32 $\pm$ 0.63	3.86 $\pm$ 0.53	10.57 $\pm$ 2.21 <sup>a</sup>	12.44 $\pm$ 1.68 <sup>b</sup>
14:1(n-5)	0.77 $\pm$ 0.22	0.78 $\pm$ 0.19	0.17 $\pm$ 0.07	0.24 $\pm$ 0.09
16:0	43.12 $\pm$ 5.74 <sup>a</sup>	37.04 $\pm$ 4.87 <sup>b</sup>	365.16 $\pm$ 100.2	388.19 $\pm$ 80.11
16:1(n-7)	0.53 $\pm$ 0.09	0.52 $\pm$ 0.14	2.21 $\pm$ 0.38	2.07 $\pm$ 0.3
18:0	15.22 $\pm$ 6.98	19.74 $\pm$ 12.77	311.71 $\pm$ 75.3	301.73 $\pm$ 70.8
18:1(n-9), OA	18.84 $\pm$ 4.51 <sup>a</sup>	12.66 $\pm$ 1.76 <sup>b</sup>	186.96 $\pm$ 99.24 <sup>a</sup>	83.63 $\pm$ 17.57 <sup>b</sup>
18:1(n-7)	3.5 $\pm$ 0.57	3.04 $\pm$ 0.52	12.95 $\pm$ 3.79	14.34 $\pm$ 2.8
18:2(n-6), LA	6.31 $\pm$ 0.92 <sup>a</sup>	7.56 $\pm$ 1.25 <sup>b</sup>	58.28 $\pm$ 28.81	63.99 $\pm$ 16.89
18:3(n-6)	0.24 $\pm$ 0.03	0.23 $\pm$ 0.04	2.63 $\pm$ 0.27	2.69 $\pm$ 0.71
18:3(n-3), ALA	0.2 $\pm$ 0.1 <sup>a</sup>	0.42 $\pm$ 0.06 <sup>b</sup>	1.14 $\pm$ 0.84 <sup>a</sup>	4.64 $\pm$ 1.31 <sup>b</sup>
20:0	1.71 $\pm$ 0.6 <sup>a</sup>	1.09 $\pm$ 0.15 <sup>b</sup>	113.34 $\pm$ 20.28 <sup>a</sup>	35.73 $\pm$ 5.45 <sup>b</sup>
20:1(n-9)	1.16 $\pm$ 0.34 <sup>a</sup>	0.34 $\pm$ 0.04 <sup>b</sup>	16.93 $\pm$ 8.99 <sup>a</sup>	2.7 $\pm$ 0.43 <sup>b</sup>
20:2(n-6)	0.24 $\pm$ 0.05	0.26 $\pm$ 0.06	1.72 $\pm$ 0.85	2.17 $\pm$ 0.6
20:3(n-6)	0.5 $\pm$ 0.15	0.39 $\pm$ 0.17	2.96 $\pm$ 1.88	2 $\pm$ 1.65
20:4(n-6), ARA	1.96 $\pm$ 0.29	1.72 $\pm$ 0.53	7.13 $\pm$ 1.2 <sup>a</sup>	5.18 $\pm$ 1.24 <sup>b</sup>
20:3(n-3)	0.41 $\pm$ 0.16	0.49 $\pm$ 0.23	1.33 $\pm$ 0.57	1.01 $\pm$ 0.45
20:5(n-3), EPA	0.16 $\pm$ 0.08	0.09 $\pm$ 0.05	0.09 $\pm$ 0.05 <sup>a</sup>	0.16 $\pm$ 0.07 <sup>b</sup>
22:0	3.53 $\pm$ 1.24 <sup>a</sup>	1.94 $\pm$ 0.27 <sup>b</sup>	270.11 $\pm$ 40.14 <sup>a</sup>	54.1 $\pm$ 7.04 <sup>b</sup>
22:1(n-9)	0.41 $\pm$ 0.2 <sup>a</sup>	0.7 $\pm$ 0.25 <sup>b</sup>	7.48 $\pm$ 1.76 <sup>a</sup>	3.22 $\pm$ 0.83 <sup>b</sup>
22:2(n-6)	0.28 $\pm$ 0.12	0.32 $\pm$ 0.09	5.56 $\pm$ 1.79 <sup>a</sup>	4.11 $\pm$ 1.33 <sup>b</sup>
22:3(n-3)	0.24 $\pm$ 0.06 <sup>a</sup>	0.17 $\pm$ 0.07 <sup>b</sup>	1.54 $\pm$ 0.38 <sup>a</sup>	0.85 $\pm$ 0.22 <sup>b</sup>
22:4(n-6), DTA	0.71 $\pm$ 0.3	0.93 $\pm$ 0.46	1.31 $\pm$ 0.84 <sup>a</sup>	0.44 $\pm$ 0.15 <sup>b</sup>
22:5(n-3)	0.02 $\pm$ 0.02	0.01 $\pm$ 0	0.21 $\pm$ 0.1	0.17 $\pm$ 0.09
24:0	3.92 $\pm$ 0.99	3.74 $\pm$ 0.69	187.17 $\pm$ 22.2 <sup>a</sup>	50.95 $\pm$ 5.27 <sup>b</sup>
22:6(n-3), DHA	0.13 $\pm$ 0.05	0.17 $\pm$ 0.04	0.62 $\pm$ 0.21	0.77 $\pm$ 0.26
24:1(n-9)	0.12 $\pm$ 0.05	0.11 $\pm$ 0.06	2.47 $\pm$ 0.99 <sup>a</sup>	1.43 $\pm$ 0.36 <sup>b</sup>
<b>Total SFA</b>	72.42 $\pm$ 12.21	67.97 $\pm$ 15.7	1260.29 $\pm$ 232.35 <sup>a</sup>	846.01 $\pm$ 164.21 <sup>b</sup>
<b>Total MUFA</b>	25.36 $\pm$ 4.84 <sup>a</sup>	18.17 $\pm$ 2.47 <sup>b</sup>	229.2 $\pm$ 114.09 <sup>a</sup>	107.66 $\pm$ 20.47 <sup>b</sup>
<b>Total (n-6)</b>	10.25 $\pm$ 1.27	11.44 $\pm$ 1.93	79.64 $\pm$ 30.66	80.62 $\pm$ 18.93
<b>Total (n-3)</b>	1.19 $\pm$ 0.2	1.38 $\pm$ 0.28	4.96 $\pm$ 1.45 <sup>a</sup>	7.62 $\pm$ 1.56 <sup>b</sup>
<b>Total PUFA</b>	11.45 $\pm$ 1.24	12.83 $\pm$ 2.17	84.6 $\pm$ 31.79	88.24 $\pm$ 20.42
TL ( $\mu\text{g}/100 \text{ mg}$ )	141.6 $\pm$ 16.9	127.5 $\pm$ 21.5	1635.0 $\pm$ 364.0 <sup>a</sup>	1098.0 $\pm$ 196.9 <sup>b</sup>

<sup>1</sup> The (n-3) deficient and (n-3) adequate groups received peanut oil based (n-3) FA deficient diet and soy bean oil based AIN-93G standard diet respectively for 33 days.

Values are mean ( $\mu\text{g}/100 \text{ mg}$ )  $\pm$  SD, n = 12 for (n-3) adequate group and n = 11 for (n-3) deficient group. Values with different superscripts indicate significant differences between the (n-3) deficient and (n-3) adequate feedings ( $p < 0.05$ ).

SFA: saturated fatty acids; MUFA: monounsaturated fatty acids; PUFA: polyunsaturated fatty acids; TL: Total lipids.

**Supplemental Table S2: Fatty acids of the TAG and PL fractions of fasting rat plasma (% of total fatty acids) of (n-3) deficient and (n-3) adequate groups.**

Fatty acids	Groups <sup>1</sup>			
	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate
	TAG		PL	
14:0	1.36±1.19	1.2±1.03	0.2±0.03 <sup>a</sup>	0.25±0.03 <sup>b</sup>
16:0	20.7±1.53 <sup>a</sup>	18.29±1.43 <sup>b</sup>	23.06±0.87 <sup>a</sup>	24.22±0.74 <sup>b</sup>
16:1(n-7)	1.69±0.42 <sup>a</sup>	2.35±0.54 <sup>b</sup>	0.37±0.09 <sup>a</sup>	0.51±0.06 <sup>b</sup>
18:0	5.6±2.35	5.53±1.47	23.06±1.46 <sup>a</sup>	21.05±1.45 <sup>b</sup>
18:1(n-9), OA	28.32±3.3 <sup>a</sup>	19.81±2.3 <sup>b</sup>	5.18±0.5 <sup>a</sup>	3.66±0.3 <sup>b</sup>
18:1(n-7)	2.27±0.34	2.5±0.37	2.41±0.31 <sup>a</sup>	3.26±0.47 <sup>b</sup>
18:2(n-6), LA	22.68±1.98 <sup>a</sup>	28.24±2.87 <sup>b</sup>	10.72±1.56 <sup>a</sup>	12.97±1.52 <sup>b</sup>
18:3(n-6)	0.52±0.14	0.58±0.14	0.03±0.01 <sup>a</sup>	0.05±0.01 <sup>b</sup>
18:3(n-3), ALA	0.5±0.17 <sup>a</sup>	2.19±0.35 <sup>b</sup>	0.02±0.01 <sup>a</sup>	0.04±0 <sup>b</sup>
20:0	0.33±0.09	0.42±0.22	0.17±0.08	0.14±0.12
20:1(n-9)	0.85±0.48	0.74±0.42	0.23±0.04 <sup>a</sup>	0.15±0.03 <sup>b</sup>
20:2(n-6)	0.79±0.05 <sup>a</sup>	0.54±0.11 <sup>b</sup>	0.49±0.15	0.59±0.13
20:3(n-6)	nd <sup>2</sup>	nd <sup>2</sup>	0.5±0.11 <sup>a</sup>	0.79±0.12 <sup>b</sup>
20:4(n-6), ARA	11.59±2.64	12.39±4.96	27.72±1.69 <sup>a</sup>	24.93±0.91 <sup>b</sup>
20:5(n-3), EPA	0.25±0.29 <sup>a</sup>	1.24±0.3 <sup>b</sup>	0.01±0 <sup>a</sup>	0.05±0 <sup>b</sup>
22:0	0.2±0.08 <sup>a</sup>	0.03±0.01 <sup>b</sup>	0.04±0.01 <sup>a</sup>	0.02±0 <sup>b</sup>
22:1(n-9)	0.24±0.12	0.39±0.32	0.28±0.11	0.23±0.06
22:4(n-6), DTA	0.99±0.32 <sup>a</sup>	0.33±0.19 <sup>b</sup>	1.66±0.4 <sup>a</sup>	0.32±0.15 <sup>b</sup>
22:5(n-3)	0.12±0.05	0.09±0.1	0.02±0.01	0.01±0
24:0	0.17±0.11 <sup>a</sup>	0.47±0.19 <sup>b</sup>	0.27±0.05 <sup>a</sup>	0.62±0.11 <sup>b</sup>
22:6(n-3), DHA	0.73±0.15 <sup>a</sup>	2.58±0.66 <sup>b</sup>	3.2±0.44 <sup>a</sup>	5.74±0.97 <sup>b</sup>
<b>Total SFA</b>	<b>28.38±2.98</b>	<b>25.96±1.63</b>	<b>46.83±0.99</b>	<b>46.34±1.01</b>
<b>Total MUFA</b>	<b>33.39±3.54<sup>a</sup></b>	<b>25.81±2.87<sup>b</sup></b>	<b>8.49±0.77<sup>a</sup></b>	<b>7.83±0.6<sup>b</sup></b>
<b>Total (n-6) FA</b>	<b>36.59±2.17<sup>a</sup></b>	<b>42.1±3.67<sup>b</sup></b>	<b>41.14±0.66<sup>a</sup></b>	<b>39.67±1.1<sup>b</sup></b>
<b>Total (n-3) FA</b>	<b>1.61±0.36<sup>a</sup></b>	<b>6.1±0.56<sup>b</sup></b>	<b>3.27±0.43<sup>a</sup></b>	<b>5.87±0.96<sup>b</sup></b>
<b>Total PUFA</b>	<b>38.21±2.35<sup>a</sup></b>	<b>48.21±3.74<sup>b</sup></b>	<b>44.41±0.75<sup>a</sup></b>	<b>45.54±0.68<sup>b</sup></b>
TL (µg/100 mg)	54.8±25.1	40.5±16.5	127.7±16.5	125.7±21.0

<sup>1</sup> The (n-3) deficient and (n-3) adequate groups received peanut oil based (n-3) FA deficient diet and soy bean oil based AIN-93G standard diet respectively for 33 days.

Values are mean (relative % of total FAs) ± SD, n = 12 for (n-3) adequate group and n = 11 for (n-3) deficient group. Values with different superscripts indicate significant differences between the (n-3) deficient and (n-3) adequate feedings ( $p < 0.05$ ).

SFA: saturated fatty acids; MUFA: monounsaturated fatty acids; PUFA: polyunsaturated fatty acids; TL: Total lipids.

nd<sup>2</sup>: not detected.

**Supplemental Table S3: Fatty acids of the TAG and PL fractions of rat liver (% of total fatty acids) of (n-3) deficient and (n-3) adequate groups.**

Fatty acids	Groups <sup>1</sup>			
	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate
	TAG		PL	
12:0	0.08±0.02	0.09±0.02	0.03±0.02	0.03±0.02
14:0	0.82±0.11	0.87±0.18	0.16±0.04	0.2±0.06
14:1(n-5)	0.1±0.03	0.12±0.03	0.05±0.05	0.07±0.11
16:0	23.65±1.96	24.01±3.01	15.05±0.48 <sup>a</sup>	16.28±0.75 <sup>b</sup>
16:1(n-7)	2.97±0.8	3.68±1.15	0.67±0.13	0.75±0.12
18:0	4.08±2.41	3.56±1.83	21.76±1 <sup>a</sup>	19.89±1.22 <sup>b</sup>
18:1(n-9), OA	34.24±4.42 <sup>a</sup>	24.18±2.33 <sup>b</sup>	4.5±0.41 <sup>a</sup>	3.42±0.36 <sup>b</sup>
18:1(n-7)	3.22±0.5 <sup>a</sup>	3.72±0.51 <sup>b</sup>	2.66±0.31 <sup>a</sup>	3.33±0.56 <sup>b</sup>
18:2(n-6), LA	19.76±2.41 <sup>a</sup>	26.96±6.28 <sup>b</sup>	9.68±1.11 <sup>a</sup>	11.65±1.79 <sup>b</sup>
18:3(n-6)	0.06±0.01 <sup>a</sup>	0.26±0.07 <sup>b</sup>	0.03±0.01 <sup>a</sup>	0.06±0.02 <sup>b</sup>
18:3(n-3), ALA	0.27±0.06 <sup>a</sup>	1.7±0.49 <sup>b</sup>	0.03±0.02 <sup>a</sup>	0.11±0.04 <sup>b</sup>
20:0	0.06±0.02 <sup>a</sup>	0.05±0.02 <sup>b</sup>	0.08±0.02 <sup>a</sup>	0.05±0.01 <sup>b</sup>
20:1(n-9)	0.17±0.07 <sup>a</sup>	0.12±0.03 <sup>b</sup>	0.15±0.06	0.12±0.03
20:2(n-6)	0.36±0.1 <sup>a</sup>	0.29±0.04 <sup>b</sup>	0.38±0.06 <sup>a</sup>	0.46±0.05 <sup>b</sup>
20:3(n-6)	0.16±0.07 <sup>a</sup>	0.24±0.07 <sup>b</sup>	0.61±0.1	0.83±0.1
20:4(n-6), ARA	7.22±4.01	6.29±2.94	35.05±0.68 <sup>a</sup>	31.51±0.91 <sup>b</sup>
20:3(n-3)	0.06±0.03	0.08±0.04	0.08±0.02	0.07±0.02
20:5(n-3), EPA	0.06±0.02 <sup>a</sup>	0.38±0.13 <sup>b</sup>	0.02±0.01 <sup>a</sup>	0.13±0.03 <sup>b</sup>
22:0	0.02±0.01	0.02±0.02	0.02±0.01 <sup>a</sup>	0.01±0.01 <sup>b</sup>
22:1(n-9)	0.04±0.04	0.06±0.07	0.01±0.01	0.01±0.01
22:2(n-6)	0.03±0.02 <sup>a</sup>	0.01±0.01 <sup>b</sup>	0.04±0.01 <sup>a</sup>	0.02±0.01 <sup>b</sup>
22:3(n-3)	0.43±0.2 <sup>a</sup>	0.28±0.06 <sup>b</sup>	0.65±0.09 <sup>a</sup>	0.32±0.04 <sup>b</sup>
22:4(n-6), DTA	0.65±0.37 <sup>a</sup>	0.2±0.09 <sup>b</sup>	2.4±0.61 <sup>a</sup>	0.45±0.23 <sup>b</sup>
22:5(n-3)	0.02±0.02 <sup>a</sup>	0.03±0.02 <sup>b</sup>	0.08±0.03	0.1±0.05
24:0	0.1±0.05 <sup>a</sup>	0.31±0.07 <sup>b</sup>	0.34±0.07 <sup>a</sup>	0.69±0.13 <sup>b</sup>
22:6(n-3), DHA	0.66±0.56 <sup>a</sup>	1.66±0.8 <sup>b</sup>	4.86±0.55 <sup>a</sup>	8.92±1.88 <sup>b</sup>
24:1(n-9)	0.02±0.03	0.01±0.01	0.01±0.01	0.01±0.01
<b>Total SFA</b>	<b>28.78±2.32</b>	<b>28.88±3.46</b>	<b>37.4±0.67</b>	<b>37.12±0.84</b>
<b>Total MUFA</b>	<b>40.74±5.39<sup>a</sup></b>	<b>31.87±3.47<sup>b</sup></b>	<b>8.01±0.63</b>	<b>7.68±0.67</b>
<b>Total (n-6)</b>	<b>28.21±3.86<sup>a</sup></b>	<b>34.22±5.64<sup>b</sup></b>	<b>48.15±0.63<sup>a</sup></b>	<b>44.95±2.08<sup>b</sup></b>
<b>Total (n-3)</b>	<b>1.47±0.69<sup>a</sup></b>	<b>4.11±0.74<sup>b</sup></b>	<b>5.71±0.58<sup>a</sup></b>	<b>9.62±1.86<sup>b</sup></b>
<b>Total PUFA</b>	<b>29.68±4.42<sup>a</sup></b>	<b>38.32±6.04<sup>b</sup></b>	<b>53.85±0.66<sup>a</sup></b>	<b>54.56±0.72<sup>b</sup></b>

<sup>1</sup> The (n-3) deficient and (n-3) adequate groups received peanut oil based (n-3) FA deficient diet and soy bean oil based AIN-93G standard diet respectively for 33 days.

Values are mean (relative % of total FAs) ± SD, n = 12 for (n-3) adequate group and n = 11 for (n-3) deficient group. Values with different superscripts indicate significant differences between the (n-3) deficient and (n-3) adequate feedings ( $p < 0.05$ ).

SFA: saturated fatty acids; MUFA: monounsaturated fatty acids; PUFA: polyunsaturated fatty acids.

**Supplemental Table S4: Fatty acid composition of the rat brain, eye, and testis (% of total fatty acids) of (n-3) deficient and (n-3) adequate groups.**

Fatty acids	Groups <sup>1</sup>					
	Brain		Eye		Testis	
	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate
12:0	0.14±0.09	0.12±0.03	0.2±0.07	0.17±0.06	0.17±0.05	0.16±0.04
14:0	0.24±0.04	0.27±0.06	1.34±0.16 <sup>a</sup>	1.21±0.1 <sup>b</sup>	0.89±0.24	0.88±0.23
14:1(n-5)	nd <sup>2</sup>	nd <sup>2</sup>	0.12±0.07	0.11±0.04	0.13±0.05	0.12±0.04
16:0	18.28±1.16	18.65±0.88	20.97±0.6	20.86±0.62	31.7±2.01	32.31±1.89
16:1(n-7)	0.3±0.03	0.32±0.03	2.89±0.86	2.6±0.6	2.32±1.15	1.96±0.71
18:0	18.51±0.49	18.48±0.63	14.93±1.76 <sup>a</sup>	16.6±1.62 <sup>b</sup>	6.22±0.75	6.42±0.48
18:1(n-9), OA	14.85±0.85	14.49±0.75	15.85±2.69 <sup>a</sup>	13.21±1.62 <sup>b</sup>	17.25±3.89 <sup>a</sup>	12.48±2.08 <sup>b</sup>
18:1(n-7)	3.17±0.2	3.04±0.19	3.01±0.15	3.14±0.22	2.37±0.22	2.4±0.19
18:2(n-6), LA	0.61±0.08 <sup>a</sup>	0.74±0.09 <sup>b</sup>	5.28±1.94	5.75±1.86	7.77±1.97	9.96±3.08
18:3(n-6)	0.02±0.02	0.02±0.01	0.12±0.02	0.12±0.01	0.24±0.17	0.13±0.12
18:3(n-3), ALA	0.02±0.01	0.02±0.01	0.13±0.24	0.24±0.12	0.14±0.07 <sup>a</sup>	0.62±0.32 <sup>b</sup>
20:0	0.59±0.17	0.54±0.12	0.31±0.03	0.33±0.06	0.15±0.02	0.13±0.03
20:1(n-9)	0.45±0.12	0.39±0.1	0.23±0.06	0.18±0.01	0.2±0.05 <sup>a</sup>	0.11±0.02 <sup>b</sup>
20:2(n-6)	0.24±0.06	0.24±0.05	0.34±0.02 <sup>a</sup>	0.37±0.03 <sup>b</sup>	0.25±0.03	0.26±0.04
20:3(n-6)	0.39±0.03 <sup>a</sup>	0.43±0.05 <sup>b</sup>	0.27±0.03 <sup>a</sup>	0.33±0.04 <sup>b</sup>	0.83±0.13 <sup>a</sup>	1.04±0.12 <sup>b</sup>
20:4(n-6), ARA	10.39±1.84	10.86±0.6	11.72±0.95	11.5±0.57	14.45±2.49	15.24±2.35
20:3(n-3)	nd <sup>2</sup>	nd <sup>2</sup>	0.02±0.03	0.02±0.02	0.1±0.02	0.11±0.02
20:5(n-3), EPA	nd <sup>2</sup>	nd <sup>2</sup>	0.02±0.01 <sup>a</sup>	0.1±0.1 <sup>b</sup>	0.01±0.01 <sup>a</sup>	0.04±0.02 <sup>b</sup>
22:0	1.02±1.38	0.55±0.12	0.3±0.03	0.31±0.09	0.13±0.02	0.24±0.45
22:1(n-9)	0.22±0.1	0.18±0.04	0.11±0.03	0.1±0.04	0.7±0.12	0.7±0.14
22:2(n-6)	0.04±0.03	0.03±0.01	0.05±0.02	0.04±0.02	0.04±0.01	0.05±0.06
22:3(n-3)	2.95±0.5	2.83±0.15	1.88±0.15 <sup>a</sup>	1.64±0.12 <sup>b</sup>	1.65±0.28	1.71±0.23
22:4(n-6), DTA	1.45±0.3 <sup>a</sup>	0.73±0.34 <sup>b</sup>	1.51±0.34 <sup>a</sup>	0.54±0.1 <sup>b</sup>	11.26±1.89	11.55±1.76
22:5(n-3)	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>

24:0	1.07±0.27	0.97±0.16	0.61±0.16 <sup>a</sup>	1.01±0.11 <sup>b</sup>	0.09±0.02 <sup>a</sup>	0.08±0.02 <sup>b</sup>
22:6(n-3), DHA	13.59±1.93 <sup>a</sup>	15.8±1.04 <sup>b</sup>	16.9±2.42	18.71±2.55	0.58±0.14 <sup>a</sup>	0.94±0.21 <sup>b</sup>
24:1(n-9)	2.03±1.74	1.36±0.32	0.41±0.03	0.42±0.03	0.05±0.02	0.05±0.01
<b>Total SFA</b>	<b>39.83±1.57</b>	<b>39.57±0.98</b>	<b>38.63±2.15<sup>a</sup></b>	<b>40.45±1.88<sup>b</sup></b>	<b>39.32±2.4</b>	<b>40.18±1.84</b>
<b>Total MUFA</b>	<b>20.98±2.56</b>	<b>19.76±1.3</b>	<b>22.6±3.31<sup>a</sup></b>	<b>19.73±2.25<sup>b</sup></b>	<b>22.99±5.14<sup>a</sup></b>	<b>17.78±2.81<sup>b</sup></b>
<b>Total (n-6)</b>	<b>13.11±1.74</b>	<b>13.01±0.7</b>	<b>19.28±1.45</b>	<b>18.63±1.88</b>	<b>34.8±2.56<sup>a</sup></b>	<b>38.2±1.08<sup>b</sup></b>
<b>Total (n-3)</b>	<b>16.55±2.39<sup>a</sup></b>	<b>18.64±1.01<sup>b</sup></b>	<b>18.93±2.48</b>	<b>20.7±2.46</b>	<b>2.46±0.35<sup>a</sup></b>	<b>3.39±0.16<sup>b</sup></b>
<b>Total PUFA</b>	<b>29.66±4.08</b>	<b>31.65±1.33</b>	<b>38.21±2.04</b>	<b>39.32±1.39</b>	<b>37.26±2.87<sup>a</sup></b>	<b>41.59±1.14<sup>b</sup></b>

<sup>1</sup> The (n-3) deficient and (n-3) adequate groups received peanut oil based (n-3) FA deficient diet and soy bean oil based AIN-93G standard diet respectively for 33 days. Values are mean (relative % of total FAs) ± SD, n = 12 for (n-3) adequate group and n = 11 for (n-3) deficient group. Values with different superscripts indicate significant differences between the (n-3) deficient and (n-3) adequate feedings ( $p < 0.05$ ).

SFA: saturated fatty acids; MUFA: monounsaturated fatty acids; PUFA: polyunsaturated fatty acids.

nd <sup>2</sup>: not detected.

**Supplemental Table S5: Fatty acid composition of the rat visceral fat, heart, and lung (% of total fatty acids) of (n-3) deficient and (n-3) adequate groups.**

Fatty acids	Groups <sup>1</sup>					
	Visceral fat		Heart		Lung	
	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate	(n-3) deficient	(n-3) adequate
12:0	0.3±0.03 <sup>a</sup>	0.28±0.04 <sup>b</sup>	0.32±0.06 <sup>a</sup>	0.26±0.07 <sup>b</sup>	0.39±0.18	0.42±0.12
14:0	1.62±0.32 <sup>a</sup>	1.9±0.13 <sup>b</sup>	0.94±0.62	0.65±0.22	2.06±0.26	2.2±0.22
14:1(n-5)	0.17±0.06 <sup>a</sup>	0.24±0.05 <sup>b</sup>	0.1±0.09	0.08±0.07	0.35±0.15	0.29±0.11
16:0	20.75±1.57	21.13±1.44	14.48±3.74	13.45±1.17	27.06±2.4	28.45±2.19
16:1(n-7)	4.92±0.75 <sup>a</sup>	6.09±0.85 <sup>b</sup>	1.69±1.79	1.22±0.73	3.67±1.56	4.15±1.44
18:0	2±0.47	2.37±0.51	16.71±4.24	17.64±1.42	8.86±3.19	9.1±1.8
18:1(n-9), OA	10.35±4.1	11.01±3.37	14.78±8.71 <sup>a</sup>	7.79±2.61 <sup>b</sup>	28.49±6.34 <sup>a</sup>	20.14±4.09 <sup>b</sup>
18:1(n-7)	36.59±3.97 <sup>a</sup>	21.86±4.04 <sup>b</sup>	3.5±0.38 <sup>a</sup>	3.84±0.35 <sup>b</sup>	2.47±0.33 <sup>a</sup>	2.75±0.29 <sup>b</sup>
18:2(n-6), LA	20.85±1.04 <sup>a</sup>	30.92±2.53 <sup>b</sup>	18.12±2 <sup>a</sup>	23.29±1.84 <sup>b</sup>	12±2.41 <sup>a</sup>	15.8±3.63 <sup>b</sup>
18:3(n-6)	0.1±0.02 <sup>a</sup>	0.11±0.02 <sup>b</sup>	0.02±0.01 <sup>a</sup>	0.09±0.03 <sup>b</sup>	0.03±0.01 <sup>a</sup>	0.12±0.04 <sup>b</sup>
18:3(n-3), ALA	0.37±0.06 <sup>a</sup>	2.59±0.21 <sup>b</sup>	0.08±0.05 <sup>a</sup>	0.41±0.18 <sup>b</sup>	0.16±0.05 <sup>a</sup>	0.89±0.26 <sup>b</sup>
20:0	0.34±0.07 <sup>a</sup>	0.13±0.03 <sup>b</sup>	0.39±0.1 <sup>a</sup>	0.27±0.02 <sup>b</sup>	0.42±0.09	0.36±0.1
20:1(n-9)	0.58±0.05 <sup>a</sup>	0.22±0.02 <sup>b</sup>	0.26±0.08 <sup>a</sup>	0.1±0.02 <sup>b</sup>	0.48±0.04 <sup>a</sup>	0.23±0.03 <sup>b</sup>
20:2(n-6)	0.14±0.03 <sup>a</sup>	0.2±0.03 <sup>b</sup>	0.28±0.06	0.28±0.03	0.31±0.09	0.37±0.08
20:3(n-6)	0.03±0.01 <sup>a</sup>	0.08±0.02 <sup>b</sup>	0.31±0.09 <sup>a</sup>	0.41±0.08 <sup>b</sup>	0.33±0.14 <sup>a</sup>	0.48±0.14 <sup>b</sup>
20:4(n-6), ARA	0.29±0.05 <sup>a</sup>	0.41±0.08 <sup>b</sup>	19.94±6.65	19.68±2.56	7.88±3.35	8.62±2.7
20:3(n-3)	0.01±0.01 <sup>a</sup>	0.04±0.01 <sup>b</sup>	0.08±0.03	0.09±0.02	0.04±0.03 <sup>a</sup>	0.07±0.03 <sup>b</sup>
20:5(n-3), EPA	0.01±0.01 <sup>a</sup>	0.03±0.01 <sup>b</sup>	0.02±0.01 <sup>a</sup>	0.08±0.03 <sup>b</sup>	0.02±0.01 <sup>a</sup>	0.14±0.05 <sup>b</sup>
22:0	0.21±0.05 <sup>a</sup>	0.06±0.02 <sup>b</sup>	0.47±0.11 <sup>a</sup>	0.29±0.04 <sup>b</sup>	0.52±0.15	0.53±0.17
22:1(n-9)	0.03±0.01 <sup>a</sup>	0.02±0.01 <sup>b</sup>	0.07±0.05	0.08±0.12	0.22±0.08	0.18±0.05
22:2(n-6)	0.01±0.01 <sup>a</sup>	0.01±0.01 <sup>b</sup>	0.05±0.02 <sup>a</sup>	0.03±0.01 <sup>b</sup>	0.1±0.05 <sup>a</sup>	0.05±0.02 <sup>b</sup>
22:3(n-3)	0.05±0.02 <sup>a</sup>	0.07±0.02 <sup>b</sup>	1.14±0.27 <sup>a</sup>	0.86±0.14 <sup>b</sup>	1.68±0.73	1.6±0.57
22:4(n-6), DTA	0.04±0.02	0.04±0.02	2.44±1.19 <sup>a</sup>	0.8±0.22 <sup>b</sup>	0.48±0.23 <sup>a</sup>	0.2±0.08 <sup>b</sup>
22:5(n-3)	nd <sup>2</sup>	nd <sup>2</sup>	0.27±0.11 <sup>a</sup>	0.89±0.23 <sup>b</sup>	0.07±0.04 <sup>a</sup>	0.37±0.15 <sup>b</sup>

24:0	0.11±0.03 <sup>a</sup>	0.02±0.01 <sup>b</sup>	0.16±0.03 <sup>a</sup>	0.09±0.02 <sup>b</sup>	0.46±0.17	0.44±0.14
22:6(n-3), DHA	0.02±0.01 <sup>a</sup>	0.1±0.03 <sup>b</sup>	2.97±1.12 <sup>a</sup>	6.91±1.22 <sup>b</sup>	0.36±0.13 <sup>a</sup>	0.92±0.29 <sup>b</sup>
24:1(n-9)	0.03±0.01	0.03±0.01	0.06±0.07	0.03±0.01	0.61±0.29	0.58±0.19
<b>Total SFA</b>	<b>25.3±1.66</b>	<b>25.86±1.85</b>	<b>33.46±1.33</b>	<b>32.62±0.83</b>	<b>39.75±5.43</b>	<b>41.48±4.15</b>
<b>Total MUFA</b>	<b>52.65±1.17<sup>a</sup></b>	<b>39.43±2.07<sup>b</sup></b>	<b>20.44±10.47<sup>a</sup></b>	<b>13.12±3.3<sup>b</sup></b>	<b>36.26±7.58<sup>a</sup></b>	<b>28.29±5.26<sup>b</sup></b>
<b>Total (n-6)</b>	<b>21.43±1.03<sup>a</sup></b>	<b>31.74±2.48<sup>b</sup></b>	<b>41.13±9.09</b>	<b>44.55±2.67</b>	<b>21.09±1.99<sup>a</sup></b>	<b>25.61±2.53<sup>b</sup></b>
<b>Total (n-3)</b>	<b>0.44±0.06<sup>a</sup></b>	<b>2.81±0.22<sup>b</sup></b>	<b>4.55±1.44<sup>a</sup></b>	<b>9.21±1.36<sup>b</sup></b>	<b>2.3±0.87<sup>a</sup></b>	<b>3.97±0.8<sup>b</sup></b>
<b>Total PUFA</b>	<b>21.87±1.02<sup>a</sup></b>	<b>34.55±2.64<sup>b</sup></b>	<b>45.68±10.46<sup>a</sup></b>	<b>53.75±3.24<sup>b</sup></b>	<b>23.39±2.76<sup>a</sup></b>	<b>29.57±2.83<sup>b</sup></b>

<sup>1</sup> The (n-3) deficient and (n-3) adequate groups received peanut oil based (n-3) FA deficient diet and soy bean oil based AIN-93G standard diet respectively for 33 days. Values are mean (relative % of total FAs) ± SD, n = 12 for (n-3) adequate group and n = 11 for (n-3) deficient group. Values with different superscripts indicate significant differences between the (n-3) deficient and (n-3) adequate feedings ( $p < 0.05$ ).

SFA: saturated fatty acids.

MUFA: monounsaturated fatty acids.

PUFA: polyunsaturated fatty acids.

nd<sup>2</sup>: not detected.