## Supplemental Table 1. Semi-purified diet compositions

<table>
<thead>
<tr>
<th>Diet Constituent (g/kg diet)</th>
<th>Study One Diets</th>
<th>Study Two Diets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CO-C</td>
<td>CO-P</td>
</tr>
<tr>
<td>Casein</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>DL-Methionine</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sucrose</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>Corn Starch</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Cellulose</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Pectin</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>AIN-76 Mineral Mix&lt;sup&gt;2&lt;/sup&gt;</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>AIN-76 Salt Mix</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Choline Chloride</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CO</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>FO</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EPA</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DHA</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>% energy from (n-3) PUFA</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

<sup>1</sup>All dry diet constituents were purchased from Bio Serv (Bio Serv, Frenchtown, NJ). Corn oil (CO, Dyets, Madison, WI), fish oil (FO, Omega Protein Inc, Reedville, VA), DHA ethyl ester (>70% pure, Incromega DHA700E SR; Bioriginal Food & Science Corp, Saskatchewan, Canada) and EPA free fatty acid (>95% pure, SLA Pharma, Watford, UK). CO-C (corn oil + cellulose), CO-P (corn oil + pectin), FO-C (fish oil + cellulose) and FO-P (fish oil + pectin).

<sup>2</sup>AIN 76 mineral mix (48).
Supplemental Table 2. Dietary fatty acid composition and % energy

<table>
<thead>
<tr>
<th>Fatty acid&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Study One Diets</th>
<th>Study Two Diets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CO-C</td>
<td>CO-P</td>
</tr>
<tr>
<td>14:0</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>16:0</td>
<td>11.6</td>
<td>11.3</td>
</tr>
<tr>
<td>16:1(n-7)</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>18:1(n-9)</td>
<td>29.1</td>
<td>28.9</td>
</tr>
<tr>
<td>18:2(n-6)</td>
<td>55.4</td>
<td>55.8</td>
</tr>
<tr>
<td>18:3(n-3)</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>20:5(n-3)</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>22:5(n-3)</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>22:6(n-3)</td>
<td>trace</td>
<td>trace</td>
</tr>
<tr>
<td>% Energy from lipid</td>
<td>31.2</td>
<td>31.2</td>
</tr>
<tr>
<td>% Energy from (n-3) PUFA</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

<sup>1</sup>Only the major fatty acids (> 1g/100 g) are listed
<sup>2</sup>trace, trace amount (< 0.05)
Supplemental Figure 1. Representative dot plots depicting the detection of T cell subsets by intracellular expression of Treg and Th17 cell markers. Dietary groups (see Materials and Methods) are shown at the top of each column. Purified splenic CD4+ T cells were gated based on side scatter (SSC, y axis) versus the specific marker for each T cell subset (x axis). Tregs were identified as Foxp3-PE+ cells (top row). Th17 cells were identified by expression of either the signature cytokine IL-17A-APC+ cells (middle row) or by expression of the signature transcription factor RORγt-APC+ cells (bottom row). Flow cytometric analysis was conducted using an Accuri C6 flow cytometer (Accuri Cytometers). CO-C, corn oil + cellulose; CO-P, corn oil + pectin; FO-C, fish oil + cellulose and FO-P, fish oil + pectin.
Supplemental Figure 2. Representative dot plots depicting the detection of polarized Th17 cells co-expressing surface cytokine receptors. Dietary groups are shown at the top of each column (see Materials and Methods). The percentage of splenic Th17 cells co-expressing specific cytokine receptors was determined by intracellular detection of the Th17 cell signature cytokine IL-17A-APC$^+$ cells (y axis) versus cytokine receptor surface expression (x axis). IL-17A-APC$^+$/IL-6R-PE$^+$ cells (top row), IL-17A-APC$^+$/IL-21R-PE$^+$ cells (middle row), IL-17A-APC$^+$/IL-23R-PE$^+$ cells (bottom row). Flow cytometric analysis was conducted using an Accuri C6 flow cytometer (Accuri Cytometers). CO-C, corn oil + cellulose; CO-P, corn oil + pectin; FO-C, fish oil + cellulose; FO-P, fish oil + pectin.
Supplemental Figure 3. Representative dot plots depicting the detection of T cell subsets by intracellular expression of Treg and Th17 cell markers. Dietary groups (see Materials and Methods) are shown at the top of each column. Purified splenic CD4+ T cells were gated based on side scatter (SSC, y axis) versus the specific marker for each T cell subset (x axis). Tregs were identified as Foxp3-PE+ cells (top row). Th17 cells were identified by expression of either the signature cytokine IL-17A-APC+ cells (middle row) or by expression of the signature transcription factor RORγt-APC+ cells (bottom row). Flow cytometric analysis was conducted using an Accuri C6 flow cytometer (Accuri Cytometers).