SUPPLEMENTARY INFORMATION:

The Dietary Total-Fat Content Affects the *In Vivo* Circulating C15:0 and C17:0 Fatty Acid Concentrations Independently to the Dietary Fatty Acid Compositions; Highlighting Dietary Routes that may Attenuate the Development of Metabolic Disease

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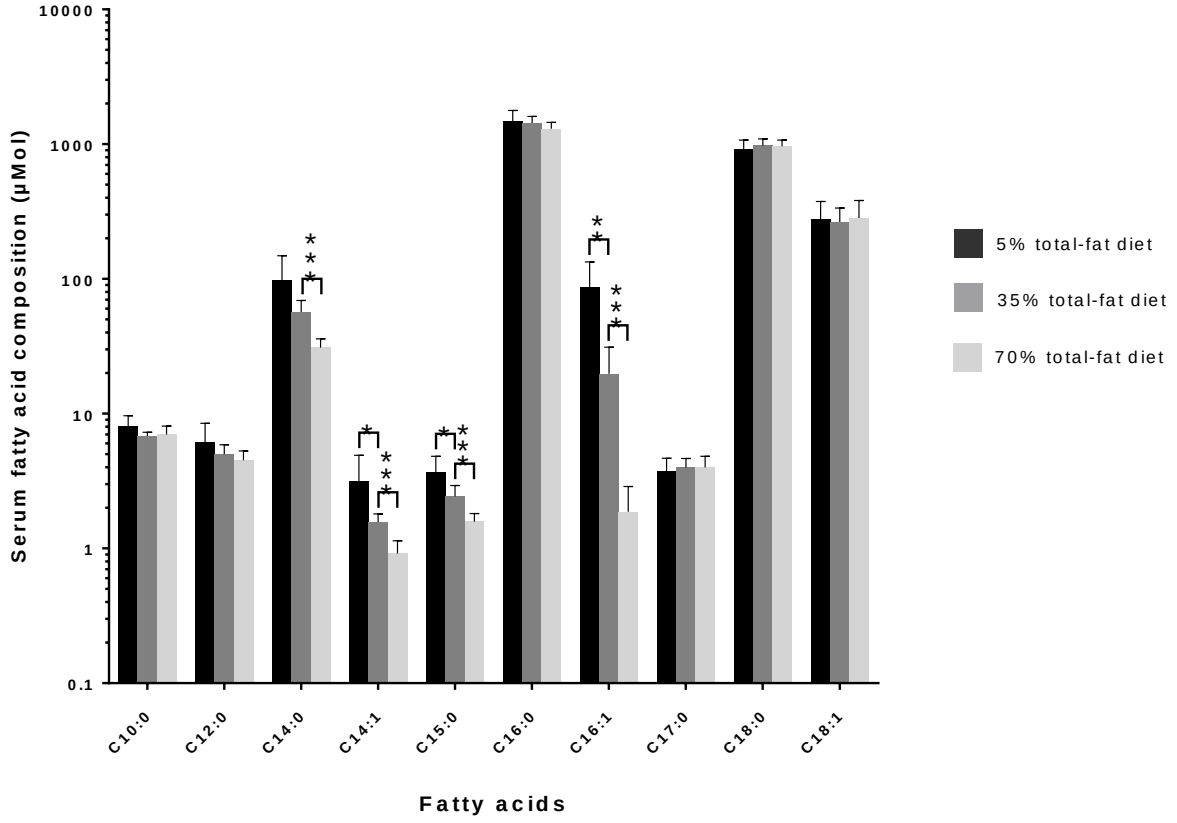
Figure S1: The circulating fatty acid absolute concentration (µMol) change in response to the three experimental diets.



Supplemental figure S1; The effect of changing the amount of total-fat within the diet from 5% to 35% to 70% (% total energy) on the serum fatty acid absolute concentration (µMol) whilst maintaining identical dietary fatty acid compositions across the three diets (n = 7-9 per group). This is to see if the amount of fat within the diet influences the serum fatty acid absolute concentration independently to the actual dietary fatty acid composition. The serum samples were analysed by gas chromatography separation with mass spectrometry detection. The significance of the difference between each group is shown by the p-value star system; where p≤0.05 was considered statistically significant (p<0.05=*, p<0.01=**, p<0.001=). Error bars represent ± standard error of the mean.***

TABLE S2: The circulating fatty acid compositions (Mol %) changes between an ethanol treated group and their associated control group.

Supplemental figure S2; The serum fatty acid composition (Mol %) of the ethanol treated Sprague-Dawley rats (EtOH) and the associated control group (Control) measured by gas chromatography separation with mass spectrometry detection following an intragastric cannula feeding experiment where either group received 35% corn oil or 35% corn oil with 39% ethanol (as percentage of total energy, ethanol was isocalorically substituted for carbohydrate calories, additionally, protein, vitamin and mineral contents were identical in all diets). The significance of the difference between the two groups is shown by the p-value. A value of $p \leq 0.05$ was considered significant. Results are shown with ± standard error of the mean. (n = 7 per group; male).

	Control group (Mol %)	EtOH group (Mol %)	p-value
C10:0	0.202 ± 0.010	0.223 ± 0.017	>0.1
C12:0	0.147 ± 0.006	0.149 ± 0.006	>0.1
C14:0	1.652 ± 0.071	1.351 ± 0.042	0.003
C14:1	0.046 ± 0.002	0.039 ± 0.002	0.020
C15:0	0.071 ± 0.003	0.058 ± 0.003	0.014
C16:0	42.173 ± 0.855	39.733 ± 0.560	0.034
C16:1	0.565 ± 0.095	0.343 ± 0.063	0.077
C17:0	0.116 ± 0.004	0.112 ± 0.004	>0.1
C18:0	28.657 ± 1.014	29.880 ± 1.012	>0.1
C18:1	7.615 ± 0.471	7.324 ± 0.482	>0.1
C18:2	18.755 ± 1.271	20.787 ± 0.901	>0.1