

## Supplementary Materials

**Table S1.** Pearson correlations between FA profiles and blood biomarkers (study 1).

	BMI (kg/m <sup>2</sup> )	25(OH)D (nmol/L)	hsCrP (mg/l)	IL-6 (pg/mL)	Triglycerides (mmol/l)	Total Cholesterol (mmol/l)	Adiponectin ( $\mu$ g/mL)	Resistin (ng/ml)	Leptin (ng/ml)
<b>C16:0</b>	Pearson Correlation	-0.133	0.292	0.102	0.070	0.063	<b>-0.724*</b>	0.485	0.064
	<i>p</i>	0.734	0.445	0.794	0.858	0.873	<b>0.027</b>	0.186	0.871
<b>C 18:2n6</b>	Pearson Correlation	-0.032	-0.002	-0.562	-0.588	0.092	0.422	<b>-0.0684*</b>	-0.135
	<i>p</i>	0.935	0.996	0.116	0.096	0.814	0.258	<b>0.042</b>	0.729
<b>C 18:1n9c</b>	Pearson Correlation	0.029	0.104	-0.390	-0.302	0.254	-0.278	-0.426	0.006
	<i>p</i>	0.941	0.791	0.300	0.430	0.510	0.468	0.253	0.988
<b>C 18:1n9t</b>	Pearson Correlation	0.494	-0.045	0.229	0.211	0.343	0.167	-0.104	0.064
	<i>p</i>	0.177	0.909	0.554	0.585	0.366	0.667	0.790	0.870
<b>C 18:0</b>	Pearson Correlation	0.651	-0.407	<b>0.913**</b>	<b>0.910**</b>	-0.159	-0.065	<b>0.739*</b>	0.517
	<i>p</i>	0.058	0.276	<b>0.001</b>	<b>0.001</b>	0.683	0.867	<b>0.023</b>	0.154
<b>C 20:4n6</b>	Pearson Correlation	-0.345	-0.078	-0.294	-0.293	-0.159	0.540	-0.363	-0.284
	<i>p</i>	0.363	0.842	0.442	0.444	0.682	0.134	0.336	0.459
<b>C 20:3n6</b>	Pearson Correlation	0.016	0.528	-0.179	-0.260	<b>0.764*</b>	-0.186	-0.280	<b>-0.769*</b>
	<i>p</i>	0.968	0.144	0.646	0.500	<b>0.017</b>	0.632	0.465	<b>0.015</b>

Table S1. Cont.

	BMI (kg/m <sup>2</sup> )	25(OH)D (nmol/L)	hsCrP (mg/l)	IL-6 (pg/mL)	Triglycerides (mmol/l)	Total Cholesterol (mmol/l)	Adiponectin ( $\mu$ g/mL)	Resistin (ng/ml)	Leptin (ng/ml)
<b>C 20:0</b>	Pearson Correlation	0.386	<b>-0.717*</b>	0.195	0.306	-0.353	-0.012	0.178	<b>0.890**</b>
	<i>p</i>	0.305	<b>0.030</b>	0.615	0.423	0.351	0.976	0.647	<b>0.001</b>
<b>C 22:0</b>	Pearson Correlation	-0.310	0.294	0.367	0.393	-0.172	-0.108	0.437	-0.134
	<i>p</i>	0.417	0.442	0.331	0.296	0.657	0.782	0.239	0.549
<b>C 24:1</b>	Pearson Correlation	-0.462	0.660	-0.156	-0.189	-0.008	-0.621	0.206	-0.132
	<i>p</i>	0.211	0.053	0.688	0.627	0.984	0.075	0.595	0.735
<b>C 24:0</b>	Pearson Correlation	<b>-0.697*</b>	<b>0.709*</b>	-0.170	-0.247	-0.396	-0.083	0.220	-0.329
	<i>p</i>	<b>0.037</b>	<b>0.032</b>	0.663	0.523	0.291	0.831	0.569	0.388
<b>SFA</b>	Pearson Correlation	0.304	-0.063	<b>0.673*</b>	0.659	-0.092	-0.504	<b>0.808**</b>	0.381
	<i>p</i>	0.426	0.871	<b>0.047</b>	0.054	0.814	0.166	<b>0.008</b>	0.312
<b>MUFA</b>	Pearson Correlation	0.052	0.183	-0.336	-0.0263	0.295	-0.314	-0.379	-0.002
	<i>p</i>	0.895	0.638	0.377	0.493	0.440	0.411	0.315	0.996
<b>PUFA</b>	Pearson Correlation	-0.303	-0.025	-0.489	-0.505	-0.037	0.610	-0.604	-0.355
	<i>p</i>	0.427	0.950	0.182	0.166	0.925	0.081	0.085	0.348