

**Goedecke JH, Chorell E, van Jaarsveld PJ, Risérus U, Olsson T.**

**Fatty acid metabolism and associations with insulin sensitivity differs between black and white South African women**

**Supplementary Table 2. Serum fatty acid percentage composition**

	Black (n=46)	White (n=46)	P level
<b>Cholesteryl ester fraction</b>			
<i>MUFA and SFA</i>			
Myristic acid (14:0)	0.38 (0.31-0.48)	0.63 (0.54-0.73)	<b>&lt;0.001</b>
Pentadecanoic acid (15:0)	0.12 ± 0.03	0.16 ± 0.03	<b>&lt;0.001</b>
Palmitic acid (16:0)	10.8 ± 0.68	10.7 ± 0.63	0.404
Palmitoleic acid (16:1n-7)	1.8 (1.5-2.5)	2.9 (2.5-3.5)	<b>&lt;0.001</b>
Heptadecanoic acid (17:0)	0.11 (0.09-0.13)	0.11 (0.09-0.14)	0.986
Stearic acid (18:0)	0.80 (0.70-0.91)	0.71 (0.64-0.79)	<b>0.018</b>
Oleic acid (18:1n-9)	15.6 ± 1.9	17.6 ± 1.6	<b>&lt;0.001</b>
<i>n-6 PUFA</i>			
Linoleic acid (18:2n-6)	57.7 ± 4.4	55.9 ± 3.7	<b>0.034</b>
γ-linolenic acid (18:3n-6)	0.64 (0.49-0.89)	0.81 (0.68-1.05)	<b>0.003</b>
Dihomo-γ-linolenic acid (20:3n-6)	0.67 ± 0.14	0.78 ± 0.15	<b>&lt;0.001</b>
Arachidonic acid (20:4n-6)	9.2 (7.8-10.3)	7.9 (7.0-8.8)	<b>&lt;0.001</b>
Arachidonic acid/Linoleic acid (20:4n-6/18:2n-6)	0.16 (0.13-0.18)	0.14 (0.12-0.16)	<b>0.028</b>
<i>n-3 PUFA</i>			
α-linolenic acid (18:3n-3)	0.32 (0.25-0.36)	0.30 (0.23-0.37)	0.785
Eicosapentaenoic acid (20:5n-3)	0.66 (0.48-0.79)	0.52 (0.36-0.73)	<b>0.011</b>
Docosahexaenoic acid (22:6n-3)	0.80 (0.70-0.91)	0.60 (0.54-0.71)	<b>&lt;0.001</b>
<i>Estimated enzyme activities</i>			
SCD1-16 (16:1n-7/16:0)	0.17 (0.13-0.22)	0.28 (0.23-0.32)	<b>&lt;0.001</b>
SCD1-18 (18:1n-9/18:0)	20.2 (17.1-22.1)	24.3 (21.9-26.2)	<b>&lt;0.001</b>
δ-5-desaturase (20:4n-6/20:3n-6)	13.9 (11.8-16.2)	10.6 (8.5-11.9)	<b>&lt;0.0001</b>
δ-6-desaturase (18:3 n-6/18:2n-6)	0.011 (0.008-0.017)	0.014 (0.012-0.021)	<b>0.003</b>

Elongase (18:0/16:0)	0.073 (0.063-0.084)	0.067 (0.062-0.072)	<b>0.044</b>
Lipogenic index (16:0/18:2n-6)	0.183 (0.173-0.207)	0.195 (0.177-0.206)	0.547
<b>NEFA fraction</b>			
<i>SFA and MUFA</i>			
Myristic acid (14:0)	1.5 (1.3-1.7)	2.3 (2.1-2.4)	<b>&lt;0.001</b>
Palmitic acid (16:0)	26.0 (24.8-26.7)	26.9 (25.8-27.8)	<b>0.002</b>
Palmitoleic acid (16:1)	3.4 (2.9-4.3)	5.0 (4.3-5.6)	<b>&lt;0.001</b>
Heptadecanoic acid (17:0)	0.47 (0.40-0.57)	0.43 (0.38-0.49)	<b>0.035</b>
Stearic acid (18:0)	9.3 (8.3-11.2)	8.4 (7.4-9.3)	<b>0.014</b>
Oleic acid (18:1n-9)	35.1 (33.0-37.0)	38.5 (37.2-40.4)	<b>&lt;0.001</b>
<i>n-6 PUFA</i>			
Linoleic acid (18:2n-6)	21.9 (19.8-23.4)	16.7 (15.2-17.4)	<b>&lt;0.001</b>
Arachidonic acid (20:4n-6)	0.99 (0.75-1.30)	0.90 (0.68-1.11)	0.222
<i>n3-PUFA</i>			
$\alpha$ -linolenic acid (18:3n-3)	0.74 (0.67-0.89)	0.56 (0.49-0.67)	<b>&lt;0.001</b>
Docosahexaenoic acid (22:6n-3)	0.61 (0.50-0.76)	0.46 (0.37-0.55)	<b>&lt;0.001</b>
<i>Estimated enzyme activities</i>			
SCD1-16 (16:1n-7/16:0)	0.13 (0.11-0.16)	0.19 (0.15-0.22)	<b>&lt;0.001</b>
SCD1-18 (18:1n-9/18:0)	3.7 (3.1-4.4)	4.7 (4.0-5.5)	<b>&lt;0.001</b>
Elongase (18:0/16:0)	0.362 (0.321-0.406)	0.305 (0.281-0.344)	<b>&lt;0.001</b>
Lipogenic index (16:0/18:2n-6)	1.17 (1.08-1.32)	1.62 (1.52-1.80)	<b>0.001</b>

---

Values are percentages presented as mean  $\pm$  standard deviation or median (25<sup>th</sup>-75<sup>th</sup>

percentile).  $\delta$ -5-desaturase index, 20:4n-6/20:3n6;  $\delta$ -6-desaturase index, 18:3n-6/18:2n-6;

SCD-1, stearoyl CoA desaturase-1, 16:1n-7/16:0; 18:1n-9/18:0. Note: Some of the fatty acids identified in the CE fraction will not also be present in the NEFA fraction as result of different metabolic and tissue origin.