

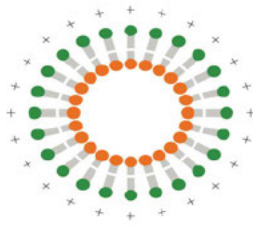
Biolab reference: [REDACTED]  
 Referred by: **DR MOHAMMED ENAYAT**  
**RESULTS@LMS.HEALTH**  
 Your reference:  
 Date: **28-06-2021**

Patient: [REDACTED]  
 Date of birth: [REDACTED]  
 Sex: **Female**  
 Sample date: [REDACTED]

## Erythrocyte Fatty Acids

(fatty acid composition of erythrocytes reported as  $\mu\text{mol/L}$  of red blood cells)

<b><math>\omega</math>-6 Fatty Acids</b>	Result $\mu\text{mol/L}$	Reference interval				
		Low	High	Low	Normal	High
<b>LA</b> Linoleic acid	<b>909</b>	500	1250			
<b>GLA</b> Gamma-linolenic acid	<b>18.0</b>	9.0	42.0			
<b>DGLA</b> Dihomo-gamma-linolenic acid	<b>90</b>	70	150			
<b>AA</b> Arachidonic acid	<b>948</b>	600	1270			
Adrenic Acid	<b>76.3</b>	40.0	100.0			
Eicosadienoic acid	<b>15.4</b>	15.0	40.0			
Docosadienoic acid	<b>6.1</b>	3.0	28.0			
<b><math>\omega</math>-3 Fatty Acids</b>				Low	Normal	High
<b>ALA</b> Alpha-linolenic acid	<b>3.2</b>	2.5	17.5			
<b>ETA</b> Eicosatetraenoic acid	<b>1.8</b>	1.0	15.0			
<b>EPA</b> Eicosapentaenoic acid	<b>81</b>	25	120			
<b>DHA</b> Docosahexaenoic acid	<b>57</b>	40	100			
<b><math>\omega</math>-5 Fatty Acids</b>				Normal	1.25	Raised
Myristoleic acid	<b>0.53</b>	$\leq 1.25$				
<b><math>\omega</math>-7 Fatty Acids</b>				Normal	60.0	Raised
Palmitoleic acid	<b>23.3</b>	$\leq 60.0$				
Cis-vaccenic acid	<b>50.9</b>	22.0	62.0	Low	Normal	High



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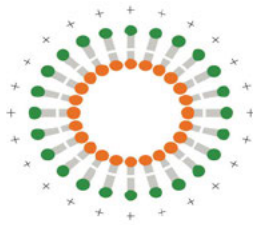
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## Erythrocyte Essential Fatty Acids (continued)

(fatty acid composition of erythrocytes reported as µmol/L of red blood cells)

ω-9 Fatty Acids	Result µmol/L	Reference interval		Reference interval		
		Low	High	Low	Normal	High
Oleic Acid	806	550	1300	550	1300	
Cis-11-eicosanoic acid	14.7	9.0	35.0	9.0	35.0	
Mead acid (20:3 n-9)	3.6	≤15.0		15.0		
Erucic acid	12.6	12.0	175.0	12.0	175.0	
Nervonic acid (24:1 n-9)	187.1	170.0	650.0	170.0	650.0	
<b>Saturated Fatty Acids</b>				2.0		
Lauric acid	0.6	≤2.0		2.0		
Myristic acid	13.6	10.0	100.0	10.0	100.0	
Pentadecanoic acid	7.8	≤16.0		16.0		
Palmitic acid	1018	800	1900	800	1900	
Margaric acid	17.3	≤26.0		26.0		
Stearic acid	832	620	1100	620	1100	
Arachidic acid	8.3	≤16.0		16.0		
Heneicosanoic acid	4.7	3.0	20.0	3.0	20.0	
Behenic acid	38	20	60	20	60	
Lignoceric acid	86	80	220	80	220	



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## Erythrocyte Essential Fatty Acids (continued)

(fatty acid composition of erythrocytes reported as  $\mu\text{mol/L}$  of red blood cells)

### **trans -Fatty Acids**

			Normal	Raised
<i>Trans</i> -vaccenic acid	<b>4.7</b>	$\leq 15.0$		
Elaidic acid ( <i>trans</i> )	<b>16.0</b>	$\leq 25.0$		
Linolelaidic acid	<b>3.3</b>	$\leq 15.4$		

Ratios	Value	Reference Interval	Comment
AA/LA	<b>1.04</b>	<1.90	
AA/EPA	<b>11.72</b>	<10.00 suggests enhanced fish or fish oil intake >30.00 suggests poor dietary intake of oily fish or fish oil	
AA/DHA	<b>16.59</b>	12.50 - 30.0	
Omega 6 / Omega 3	<b>14.42</b>	10.00 - 32.00	
Polyunsaturated / Saturated	<b>1.09</b>	0.50 - 1.10	
Omega 3 index (total omega 3 fatty acids as a percentage of total)	<b>2.7%</b>	>4.00% suggests a high cardioprotective effect	<b>Low</b>

### References

- David F, Sandra P, Wylie PL. Improving the analysis of fatty acid methyl esters using retention time locked methods and retention time databases. Agilent application note 5988-5871EN, Agilent Technologies Inc, 2003
- Harris WS, Lemke SL, Hansen SN et al. Stearidonic acid-enriched soybean oil increased the omega-3 index, an emerging cardiovascular risk marker. *Lipids* 2008;43:805-811
- Cao J, Schwichtenberg KA, Hanson NQ, Tsai MY. Incorporation and clearance of omega-3 fatty acids in erythrocyte membranes and plasma phospholipids. *Clin Chem* 2006;52:2265-2271