Greenwood Genetic Center

106 Gregor Mendel Circle
Greenwood, SC 29646

Patient: **XXXXXXX**
Date of Birth: **XXXXXX**
MRN #: **XXXXXX**
External Patient ID: **Not Provided**
Specimen Type Tested: **Plasma**
Test Requested: **Acylcarnitine Profile (BACY)**
Ordering Provider: **XXXXXXX**
Authorizing Provider: **XXXXXXX**

Specimen ID #:
External Specimen ID: **Not Provided**

Sample Collected:
Sample Received:
Requested Date:
Date Reported:

## Interpretation
Normal plasma acylcarnitine profile.

### C2 Acetylcarnitine
4.05 µmol/L — Reference Range: 2.00 - 12.09

### C3 Propionylcarnitine
0.13 µmol/L — Reference Range: 0.00 - 0.81

### C3:1 Acrylylcarnitine
<0.04 µmol/L — Reference Range: 0.00 - 0.36

### C3-DC Malonylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.14

### C4 Isobutyryl-/butyrylcarnitine
0.13 µmol/L — Reference Range: 0.00 - 0.63

### C4-DC methylmalonylcarnitine and succinylcarnitine
0.02 µmol/L — Reference Range: 0.00 - 0.12

### C4-OH 3-Hydroxybutyrylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.10

### C5 Isovaleryl-/2-methylbutyrylcarnitine
0.03 µmol/L — Reference Range: 0.00 - 0.21

### C5-DC Glutaryl-/3-hydroxydecanoylcarnitine
0.04 µmol/L — Reference Range: 0.00 - 0.12

### C5-OH 3-hydroxyisovaleryl-2-methyl-3 hydroxybutyryl
0.02 µmol/L — Reference Range: 0.00 - 0.09

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**C5:1 Tiglylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.05

**C6 Hexanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.20

**C6-DC Adipoylcarnitinecarnitine**
0.03 µmol/L
Reference Range: 0.00 - 0.07

**C6-OH 3-hydroxyhexanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.15

**C8 Octanoylcarnitine**
0.02 µmol/L
Reference Range: 0.00 - 0.28

**C8-DC Octanedioylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.05

**C8:1 Octenoylcarnitine**
0.02 µmol/L
Reference Range: 0.00 - 0.41

**C10 Decanoylcarnitine**
0.04 µmol/L
Reference Range: 0.00 - 0.44

**C10-DC Sebacylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.07

**C10:1 Decenoylcarnitine**
0.02 µmol/L
Reference Range: 0.00 - 0.33

**C10:2 Decadienoylcarnitine**
0.02 µmol/L
Reference Range: 0.00 - 0.08

**C12 Dodecanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.13

**C12-OH 3-OH-dodecanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.05

**C12:1 Dodecenoylcarnitine**
0.02 µmol/L
Reference Range: 0.00 - 0.15

**C14 Tetradecanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.10

**C14-OH 3-OH-tetradecanoylcarnitine**
<0.02 µmol/L
Reference Range: 0.00 - 0.08

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### C14:1 Tetradecenoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.14

### C14:1-OH 3-OH-tetradecenoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.10

### C14:2 Tetradecadienoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.09

### C16 Hexadecanoylcarnitine
0.05 µmol/L — Reference Range: 0.00 - 0.29

### C16-OH 3-OH-hexadecanoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.06

### C16:1 Hexadecenoylcarnitine
0.03 µmol/L — Reference Range: 0.00 - 0.10

### C16:1-OH 3-OH-hexadecenoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.06

### C18 Octadecanoylcarnitine
0.03 µmol/L — Reference Range: 0.00 - 0.32

### C18-OH 3-OH-octadecanoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.04

### C18:1 Octadecenoylcarnitine
0.08 µmol/L — Reference Range: 0.00 - 0.59

### C18:1-OH 3-OH-octadecenoylcarnitine
<0.02 µmol/L — Reference Range: 0.00 - 0.03

### C18:2 Octadecadienoylcarnitine
0.02 µmol/L — Reference Range: 0.00 - 0.45

### C18:2-OH 3-OH-octadecadienoylcarn
<0.02 µmol/L — Reference Range: 0.00 - 0.06

### FIGLU Formiminoglutamate
<0.02 µmol/L — Reference Range: 0.00 - 0.14

## Method
Plasma acylcarnitines were measured using tandem mass spectrometry after the formation of butyl esters. Quantitation is performed using commercially-available internal standards. Reference ranges were developed in the laboratory and verified by comparison with published values.

## Limitations
Abnormal (out of range) levels may be secondary to perturbations in the patient's general metabolic state or dietary supplementation. Specific medications may influence acylcarnitine levels. A normal acylcarnitine profile may be noted in patients with an inborn error of metabolism who have reduced fat intake, insufficient carnitine levels, strict dietary control or who lack significant metabolic stress.

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## Comment

If there are questions or concerns about these results, please contact the laboratory director.

Reviewed and electronically signed by

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