

Reporting Title: Fatty Acid Profile, Comprehensive,S
Performing Location: Rochester

Ordering Guidance:

This test is **not** the recommended initial screening test for evaluating patients with possible peroxisomal disorders, single-enzyme defects of peroxisomal metabolism such as X-linked adrenoleukodystrophy, or peroxisomal biogenesis disorders (Zellweger syndrome spectrum). For these purposes, the preferred tests are either POXP / Fatty Acid Profile, Peroxisomal (C22-C26), Plasma or POX / Fatty Acid Profile, Peroxisomal (C22-C26), Serum.

Necessary Information:

- 1. Patient's age is required.
- 2. Include information regarding treatment, family history, and tentative diagnosis.

Specimen Requirements:

Patient Preparation:

- 1. For nutritional assessment, patient should fast overnight (12-14 hours); for patients with a suspected fatty acid oxidation disorder, collect immediately before to next feeding as fasting is contraindicated.
- 2. Patient **must not** consume any alcohol for 24 hours before the specimen collection.

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)

Collection Container/Tube:

Preferred: Serum gel

Acceptable: Red Top

Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

Collection Instructions: Centrifuge and aliquot serum into plastic vial.

Forms:

[If not ordering electronically, complete, print, and send a Biochemical Genetics Test Request](#) (T798) with the specimen.

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated	72 hours	
	Frozen (preferred)	92 days	

Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
16965	Octanoic Acid, C8:0	Numeric	nmol/mL	35145-2
16966	Decenoic Acid, C10:1	Numeric	nmol/mL	35147-8
16967	Decanoic Acid, C10:0	Numeric	nmol/mL	35146-0
16968	Lauroleic Acid, C12:1	Numeric	nmol/mL	35151-0
16969	Lauric Acid, C12:0	Numeric	nmol/mL	35150-2
16970	Tetradecadienoic Acid, C14:2	Numeric	nmol/mL	35148-6
16971	Myristoleic Acid, C14:1	Numeric	nmol/mL	35158-5

16972	Myristic Acid, C14:0	Numeric	nmol/mL	35157-7
16973	Hexadecadienoic Acid, C16:2	Numeric	nmol/mL	35154-4
16974	Hexadecenoic Acid, C16:1w9	Numeric	nmol/mL	35155-1
16975	Palmitoleic Acid, C16:1w7	Numeric	nmol/mL	35162-7
16976	Palmitic Acid, C16:0	Numeric	nmol/mL	35161-9
16977	g-Linolenic Acid, C18:3w6	Numeric	nmol/mL	35163-5
16978	a-Linolenic Acid, C18:3w3	Numeric	nmol/ml	35164-3
16979	Linoleic Acid, C18:2w6	Numeric	nmol/mL	35165-0
16980	Oleic Acid, C18:1w9	Numeric	nmol/mL	35166-8
16981	Vaccenic Acid, C18:1w7	Numeric	nmol/mL	35167-6
16982	Stearic Acid, C18:0	Numeric	nmol/mL	35149-4
16983	EPA, C20:5w3	Numeric	nmol/mL	35173-4
16984	Arachidonic Acid, C20:4w6	Numeric	nmol/mL	35168-4
16985	Mead Acid, C20:3w9	Numeric	nmol/mL	35172-6
16986	h-g-Linolenic Acid, C20:3w6	Numeric	nmol/mL	35171-8
16987	Arachidic Acid, C20:0	Numeric	nmol/mL	35169-2
16988	DHA, C22:6w3	Numeric	nmol/mL	35174-2
16989	DPA, C22:5w6	Numeric	nmol/mL	35181-7
16990	DPA, C22:5w3	Numeric	nmol/mL	35180-9
16991	DTA, C22:4w6	Numeric	nmol/mL	35182-5
16992	Docosenoic Acid, C22:1	Numeric	nmol/mL	35160-1
16993	Docosanoic Acid, C22:0	Numeric	nmol/mL	30194-5
16994	Nervonic Acid, C24:1w9	Numeric	nmol/mL	35170-0
16995	Tetracosanoic Acid, C24:0	Numeric	nmol/mL	30195-2
16996	Hexacosenoic Acid, C26:1	Numeric	nmol/mL	33036-5
16997	Hexacosanoic Acid, C26:0	Numeric	nmol/mL	30197-8
16998	Pristanic Acid, C15:0(CH3)4	Numeric	nmol/mL	22761-1
16999	Phytanic Acid, C16:0(CH3)4	Numeric	nmol/mL	22671-2
17000	Triene Tetraene Ratio	Numeric		35411-8
17001	Total Saturated	Numeric	mmol/L	35175-9
17002	Total Monounsaturated	Numeric	mmol/L	35176-7
17003	Total Polyunsaturated	Numeric	mmol/L	35177-5
17004	Total w3	Numeric	mmol/L	35178-3
17005	Total w6	Numeric	mmol/L	35179-1
17006	Total Fatty Acids	Numeric	mmol/L	24461-6
17056	Interpretation	Alphanumeric		59462-2

LOINC® and CPT codes are provided by the performing laboratory.

Supplemental Report:

No

CPT Code Information:

82725

Reference Values:

Octanoic Acid, C8:0

<1 year: 7-63 nmol/mL

1-17 years: 9-41 nmol/mL

> or =18 years: 8-47 nmol/mL

Decenoic Acid, C10:1

<1 year: 0.8-4.8 nmol/mL

1-17 years: 1.6-6.6 nmol/mL

> or =18 years: 1.8-5.0 nmol/mL

Decanoic Acid, C10:0

<1 year: 2-62 nmol/mL

1-17 years: 3-25 nmol/mL

> or =18 years: 2-18 nmol/mL

Lauroleic Acid, C12:1

<1 year: 0.6-4.8 nmol/mL

1-17 years: 1.3-5.8 nmol/mL

> or =18 years: 1.4-6.6 nmol/mL

Lauric Acid, C12:0

<1 year: 6-190 nmol/mL

1-17 years: 5-80 nmol/mL

> or =18 years: 6-90 nmol/mL

Tetradecadienoic Acid, C14:2

<1 year: 0.3-6.5 nmol/mL

1-17 years: 0.2-5.8 nmol/mL

> or =18 years: 0.8-5.0 nmol/mL

Myristoleic Acid, C14:1

<1 year: 1-46 nmol/mL

1-17 years: 1-31 nmol/mL

> or =18 years: 3-64 nmol/mL

Myristic Acid, C14:0

<1 year: 30-320 nmol/mL

1-17 years: 40-290 nmol/mL

> or =18 years: 30-450 nmol/mL

Hexadecadienoic Acid, C16:2

<1 year: 4-27 nmol/mL

1-17 years: 3-29 nmol/mL

> or =18 years: 10-48 nmol/mL

Hexadecenoic Acid, C16:1w9

<1 year: 21-69 nmol/mL

1-17 years: 24-82 nmol/mL

> or =18 years: 25-105 nmol/mL

Palmitoleic Acid, C16:1w7

<1 year: 20-1,020 nmol/mL

1-17 years: 100-670 nmol/mL

> or =18 years: 110-1,130 nmol/mL

Palmitic Acid, C16:0

<1 year: 720-3,120 nmol/mL

1-17 years: 960-3,460 nmol/mL

> or =18 years: 1,480-3,730 nmol/mL

Gamma-Linolenic Acid, C18:3w6

<1 year: 6-110 nmol/mL

1-17 years: 9-130 nmol/mL

> or =18 years: 16-150 nmol/mL

Alpha-Linolenic Acid, C18:3w3

<1 year: 10-190 nmol/mL

1-17 years: 20-120 nmol/mL

> or =18 years: 50-130 nmol/mL

Linoleic Acid, C18:2w6

< or =31 days: 350-2,660 nmol/mL

32 days-11 months: 1,000-3,300 nmol/mL

1-17 years: 1,600-3,500 nmol/mL

> or =18 years: 2,270-3,850 nmol/mL

Oleic Acid, C18:1w9

<1 year: 250-3,500 nmol/mL

1-17 years: 350-3,500 nmol/mL

> or =18 years: 650-3,500 nmol/mL

Vaccenic Acid, C18:1w7

<1 year: 140-720 nmol/mL

1-17 years: 320-900 nmol/mL
> or =18 years: 280-740 nmol/mL

Stearic Acid, C18:0
<1 year: 270-1,140 nmol/mL
1-17 years: 280-1,170 nmol/mL
> or =18 years: 590-1,170 nmol/mL

EPA, C20:5w3
<1 year: 2-60 nmol/mL
1-17 years: 8-90 nmol/mL
> or =18 years: 14-100 nmol/mL

Arachidonic Acid, C20:4w6
<1 year: 110-1,110 nmol/mL
1-17 years: 350-1,030 nmol/mL
> or =18 years: 520-1,490 nmol/mL

Mead Acid, C20:3w9
< or =31 days: 8-60 nmol/mL
32 days-11 months: 3-24 nmol/mL
> or =1 year: 7-30 nmol/mL

Homo-Gamma-Linolenic Acid, C20:3w6
<1 year: 30-170 nmol/mL
1-17 years: 60-220 nmol/mL
> or =18 years: 50-250 nmol/mL

Arachidic Acid, C20:0
<1 year: 30-120 nmol/mL
1-17 years: 30-90 nmol/mL
> or =18 years: 50-90 nmol/mL

DHA, C22:6w3
<1 year: 10-220 nmol/mL
1-17 years: 30-160 nmol/mL
> or =18 years: 30-250 nmol/mL

DPA, C22:5w6
<1 year: 3-70 nmol/mL
1-17 years: 10-50 nmol/mL
> or =18 years: 10-70 nmol/mL

DPA, C22:5w3

<1 year: 6-110 nmol/mL
1-17 years: 30-270 nmol/mL
> or =18 years: 20-210 nmol/mL

DTA, C22:4w6
<1 year: 2-50 nmol/mL
1-17 years: 10-40 nmol/mL
> or =18 years: 10-80 nmol/mL

Docosenoic Acid, C22:1
<1 year: 2-20 nmol/mL
> or =1 year: 4-13 nmol/mL

Docosanoic Acid, C22:0
0.0-96.3 nmol/mL

Nervonic Acid, C24:1
<1 year: 30-150 nmol/mL
1-17 years: 50-130 nmol/mL
> or =18 years: 60-100 nmol/mL

Tetracosanoic Acid, C24:0
0.0-91.4 nmol/mL

Hexacosenoic Acid, C26:1
<1 year: 0.2-2.1 nmol/mL
> or =1 year: 0.3-0.7 nmol/mL

Hexacosanoic Acid, C26:0
0.00-1.30 nmol/mL

Pristanic Acid, C15:0(CH₃)₄
< or =4 months: 0.00-0.60 nmol/mL
5-8 months: 0.00-0.84 nmol/mL
9-12 months: 0.00-0.77 nmol/mL
13-23 months: 0.00-1.47 nmol/mL
> or =2 years: 0.00-2.98 nmol/mL

Phytanic Acid, C16:0(CH₃)₄
< or =4 months: 0.00-5.28 nmol/mL
5-8 months: 0.00-5.70 nmol/mL
9-12 months: 0.00-4.40 nmol/mL
13-23 months: 0.00-8.62 nmol/mL
> or =2 years: 0.00-9.88 nmol/mL

Triene/Tetraene Ratio

< or =31 days: 0.017-0.083
32 days-17 years: 0.013-0.050
> or =18 years: 0.010-0.038

Total Saturated Acid

<1 year: 1.2-4.6 mmol/L
1-17 years: 1.4-4.9 mmol/L
> or =18 years: 2.5-5.5 mmol/L

Total Monounsaturated Acid

<1 year: 0.3-4.6 mmol/L
1-17 years: 0.5-4.4 mmol/L
> or =18 years: 1.3-5.8 mmol/L

Total Polyunsaturated Acid

<1 year: 1.1-4.9 mmol/L
1-17 years: 1.7-5.3 mmol/L
> or =18 years: 3.2-5.8 mmol/L

Total w3

<1 year: 0.0-0.4 mmol/L
1-17 years: 0.1-0.5 mmol/L
> or =18 years: 0.2-0.5 mmol/L

Total w6

<1 year: 0.9-4.4 mmol/L
1-17 years: 1.6-4.7 mmol/L
> or =18 years: 3.0-5.4 mmol/L

Total Fatty Acids

<1 year: 3.3-14.0 mmol/L
1-17 years: 4.4-14.3 mmol/L
> or =18 years: 7.3-16.8 mmol/L