

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 prior to next feeding as fasting is contraindicated.
2. Patient must not consume any alcohol for 24 hours before the specimen is collected.

Collection Container/Tube:

Preferred: Red top

Acceptable: Serum gel

Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

Collection Instructions: Centrifuge and aliquot serum into plastic vial.

Specimen Minimum Volume:

0.15 mL

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	Frozen (preferred)	92 days	
	Refrigerated	72 hours	

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	α-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

Result ID	Reporting Name	Type	Unit	LOINC®
16994	Nervonic Acid, C24:1w9	Numeric	nmol/mL	35170-0
16995	Tetracosanoic Acid, C24:0	Numeric	nmol/mL	30195-2
16996	Hexacosanoic 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