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**Lab Dept:** Chemistry

**Test Name:** PIPECOLIC ACID, SERUM

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**General Information**

**Lab Order Codes:** PIPE

**Synonyms:** N/A

**CPT Codes:** 82542 – Column chromatography, includes mass spectrometry, if performed, non-drug analytes, not elsewhere specified, qualitative or quantitative, each specimen

**Test Includes:** Pipecolic Acid reported in nmol/mL.

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***Logistics***

**Test Indications:** Differential diagnosis between disorders of peroxisomal biogenesis and disorders with loss of a single peroxisomal function.

**Lab Testing Sections:** Chemistry – Sendouts

**Referred to:** Mayo Medical Laboratories (MML Test: PIPA)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 2 - 31 days

**Special Instructions:** Fasting is recommended. See [Patient Preparation](#)

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***Specimen***

**Specimen Type:** Blood

**Container:** SST (Marble, gold or red top tube)

**Draw Volume:** 4.5 mL (Minimum: 3 mL) blood

**Processed Volume:** 1.5 mL (Minimum: 1 mL) serum

**Collection:** Routine venipuncture

**Special Processing:** Lab Staff: Centrifuge specimen within 45 minutes of draw, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at frozen temperatures. Forward promptly.

**Patient Preparation:** Patient should fast 12 hours or more, infants and small children just before next feeding.

**Sample Rejection:** Warm; cold refreeze; mislabeled or unlabeled specimens

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***Interpretive***

**Reference Range:**

Age	Range (nmol/mL)
<6 months:	<or =6.0 nmol/mL
6 months to <1 year:	<or =5.9 nmol/mL
1 – 17 years:	<or =4.3 nmol/mL
>or=18 years:	<or =7.4 nmol/mL
Interpretation: Elevated pipecolic acid levels are seen in disorders of peroxisomal biogenesis; normal levels are seen in disorders with loss of a single peroxisomal function.  Abnormal levels of pipecolic acid should be interpreted together with the results of other biochemical markers of peroxisomal disorders, such as plasma C(22)-C(26) very long chain fatty acids, phytanic acid, pristanic acid, RBC plasmalogens, and bile acid intermediates.	

**Critical Values:** N/A

**Limitations:** Newborn with disorders of peroxisomal biogenesis often have normal levels of pipecolic acid which increase with age.

Abnormal results may reflect either prematurity or nongenetic liver and/or renal disease.

**Methodology:** Gas Chromatography-Mass Spectrometry (GC-MS).

**References:** [Mayo Medical Laboratories](#) (September 2016)

**Updates:** 5/8/2012: Reference range updates.  
1/26/2016: CPT update