Test Definition: FBIOT
Biotin (Vitamin B7)

Overview

Method Name
Microbiological Assay

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required
Specimen Type: Serum

Container/Tube: Red or SST

Specimen Volume: 2 mL

Collection Instructions: Draw blood in a plain, no additive red-top tube(s) or serum gel tube(s). Spin down and send 2 mL serum frozen in amber vial (T192) to protect from light.

Specimen Minimum Volume
1 mL

Reject Due To

<table>
<thead>
<tr>
<th>Reject Type</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Not light protected</td>
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</table>

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
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Clinical and Interpretive

Clinical Information

Biotin, vitamin B7, or vitamin H, is a water soluble vitamin. The vitamin plays a role in the transferring of carbon dioxide in the metabolism of fat, carbohydrate and protein by functioning as an enzyme cofactor. It is involved in multiple biochemical reactions including niacin metabolism, amino acid degradation, and the formation of purine, which is an integral part of nucleic acids. It interacts with histone by the action of biotinyl-transferase. Sometimes the
vitamin is used in weight reduction programs. It may be prescribed as a supplement for diabetic patients due to its role in carbohydrate metabolism. Biotin is commonly found in vitamin B complex and many food sources, such as milk, yeast, egg yolk, cereal, and mushrooms. The reference daily intake [RDI of 101.9(c) (8) (IV)] for vitamin B7 is 300 micrograms. Deficiency in the vitamin may result in seborrheic dermatitis, alopecia, myalgia, hyperesthesia, and conjunctivitis. Disorders of biotin metabolism can be acquired or congenital. Biotinidase and holocarboxylase synthetase deficiency are the two better known forms of disorders. The lack of biotin-dependent pyruvate carboxylase, propionyl-CoA carboxylase, methylcrotonyl-CoA carboxylase, and acetyl-CoA carboxylase can lead to the life-threatening disorder of multiple carboxylase deficiency. Treatment involves a daily dose of approximately 10 mg biotin/day. Irreversible mental or neurological abnormalities may result from delayed clinical intervention.

**Reference Values**

Pediatric <12 yrs: 100.0-2460.2 pg/mL

Adults ≥12 yrs: 221.0-3004.0 pg/mL

**Performance**

**Method Description**

The Biological Assay employed to quantify the level of biotin in sera uses *Lactobacillus plantarum* as a biotin-dependent microorganism that requires Biotin for growth. The assay consists of a sterile 96-well microplate. The assay is set by placing standard curve volumes, assay media, control serum and test samples in a sterile 96-well plate and adding a set volume of diluted bacterial culture. This culture is placed in last to allow for equal growth and distribution. The bioassay is placed in 37 degrees celsius (± 3 degrees celsius), humidified, 5% ±1% CO2 incubator and allowed to incubate 64 to 86 hours. The plate is read for %Transmission. This method measures the ability of light to pass through the bacterial culture inversely measuring bacterial growth by biotin utilization.

**PDF Report**

No

**Day(s) Performed**

Monday

**Report Available**

1 to 17 days

**Performing Laboratory Location**

BioAgilytix Diagnostics

**Fees and Codes**

**Fees**

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

**Test Classification**

The performance characteristics of the listed assay was validated by BioAgilytix Diagnostics. The US FDA has not approved or cleared this test. The results of this assay can be used for clinical diagnosis without FDA approval. BioAgilytix Diagnostics is a CLIA certified, CAP accredited laboratory for performing high complexity assays such as this one.
# Test Definition: FBIOT

Biotin (Vitamin B7)

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## CPT Code Information

84591

## LOINC® Information

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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tr>
<td>FBIOT</td>
<td>Biotin (Vitamin B7)</td>
<td>34398-8</td>
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<td>Z2042</td>
<td>Biotin (Vitamin B7)</td>
<td>34398-8</td>
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