Overview

Useful For
Diagnosing protein-losing enteropathies, especially when used in conjunction with serum alpha-1-antitrypsin (AAT) levels as a part of AAT clearance studies

Method Name
Nephelometry

NY State Available
Yes

Specimen

Specimen Type
Fecal

Ordering Guidance
The preferred test for diagnosing protein-losing enteropathies is A1AFS / Alpha-1-Antitrypsin Clearance, Feces and Serum.

Specimen Required

Supplies:
- Stool container, Small (Random), 4 oz (T288)
- Stool Collection Kit, Random (T635)

Container/Tube: Stool container

Specimen Volume: 5 g

Collection Instructions: Collect a random fecal specimen.

Specimen Minimum Volume
Homogenized Stool: 1 mL

Reject Due To

| Feces collected in any preservative or fixative | Reject |

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
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</table>
Clinical and Interpretive

Clinical Information

Alpha-1-antitrypsin (AAT) is a 54kDa glycoprotein that is resistant to degradation by digestive enzymes and is, therefore, used as an endogenous marker for the presence of blood proteins in the intestinal tract. AAT clearance is reliable for measuring protein loss distal to the pylorus. A serum sample is required to interpret results as a serum deficiency of AAT would make the AAT fecal excretion lower and could invalidate the test utility.

Gastrointestinal protein enteropathy has been associated with regional enteritis, sprue, Whipple intestinal lipodystrophy, gastric carcinoma, allergic gastroenteropathy, intestinal lymphangiectasia, constrictive pericarditis, congenital hypogammaglobulinemia, and iron deficiency anemia associated with intolerance to cow's milk. Increased fecal excretion of AAT can be found in small and large intestine disease and is applicable to adults and children.

Reference Values

< or =54 mg/dL

Interpretation

Patients with protein-losing enteropathies generally have alpha-1-antitrypsin fecal concentrations over 100 mg/dL.

Borderline elevations above the normal range are equivocal for protein-losing enteropathies.

Cautions

The clearance studies using 24-hour fecal specimens and serum determinations are preferred as it normalizes the large range of serum alpha-1-antitrypsin (AAT) concentrations and the variability in random fecal AAT concentrations. In the absence of either a 24-hour fecal collection or a contemporary serum specimen, the fecal concentration of AAT can be used as a surrogate marker.

When gastric loss of AAT is suspected (eg, Menetrier disease), AAT clearance is not a reliable indicator of protein loss as AAT is sensitive to pH <3 and is rapidly destroyed. When gastric protein loss is suspected and the AAT clearance is normal, the recommendation is to repeat testing after starting an acid suppressive medication regime.

Clinical Reference


Performance
**Method Description**

Immunonephelometry quantitates the alpha-1-antitrypsin (AAT) contained in a fecal specimen. In the absence of a timed fecal collection, an AAT fecal concentration will be reported. (Instruction manual: Siemens Nephelometer II Operations. Siemens, Inc; Version 2.3, 2008; Addendum to the Instruction Manual 2.3, 08/2017)

**PDF Report**

No

**Day(s) Performed**

Monday through Friday

**Report Available**

1 to 2 days

**Specimen Retention Time**

14 days; supernatant aliquot only, the feces are discarded after processing

**Performing Laboratory Location**

Rochester

**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**

This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

**CPT Code Information**

82103

**LOINC® Information**

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<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>A1AF</td>
<td>Alpha-1-Antitrypsin, Random, F</td>
<td>9407-8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>AAT_F</td>
<td>Alpha-1-Antitrypsin, Random, F</td>
<td>9407-8</td>
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