Overview

Useful For
Investigating pancreatic disorders, usually pancreatitis, serum specimens

Method Name
Colorimetric Rate Reaction

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 0.5 mL

Collection Instructions:
1. Serum gel tube must be centrifuged within 2 hours of draw time.
2. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time.

Specimen Minimum Volume
0.25 mL

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Acceptance</th>
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</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Icterus</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
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</tbody>
</table>

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
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</table>
Clinical and Interpretive

Clinical Information
Lipases are enzymes that hydrolyze glycerol esters of long-chain fatty acids and produce fatty acids and 2-acylglycerol. Bile salts and a cofactor, colipase, are required for full catalytic activity and greatest specificity. The pancreas is the primary source of serum lipase. Both lipase and colipase are synthesized in the pancreatic acinar cells and secreted by the pancreas in roughly equimolar amounts. Lipase is filtered and reabsorbed by the kidneys. Pancreatic injury results in increased serum lipase levels.

Amylase measurement is used for a similar purpose. Many studies have looked at concurrent ordering of amylase and lipase in patients with abdominal pain and found lipase has slightly improved sensitivity for diagnosing acute pancreatitis and measurement of both analytes was unnecessary.

Reference Values
12-61 U/L

Interpretation
In pancreatitis, lipase becomes elevated at about the same time as amylase (in 4-8 hours). But lipase may rise to a greater extent and remain elevated much longer (7-10 days) than amylase.

Elevations 2 to 50 times the upper reference have been reported. The increase in serum lipase is not necessarily proportional to the severity of the attack. Normalization is not necessarily a sign of resolution.

Cautions
Certain drugs such as cholinergics and opiates may elevate serum lipase.

Renal disease may elevate the serum lipase.

Clinical Reference

Performance

Method Description
Serum lipase acts on a natural substrate, 1,2-diglyceride, to liberate 2-monoglyceride. This is hydrolyzed by monoglyceride lipase (a highly specific enzyme for monoglyceride) into glycerol and free fatty acid. Glycerol kinase acts on glycerol to form glycerol-3-phosphate, which is in turn acted on by glycerol-3-phosphate oxidase to generate hydrogen peroxide. Peroxidase converts the hydrogen peroxide, 4-aminoantipyrine and TOOS (N-ethyl-N-[2-hyroxy-3-sulfopropyl]-m-toluidine) into a quinine dye. The rate of formation of the dye, measured as an increase in absorbance at 550 nm, is proportional to the lipase concentration in the sample. (Package insert: Sekisui Diagnostics Lipase reagent, Charlottetown, PE, Canada, 4/2017)
No

Day(s) and Time(s) Test Performed
Monday through Sunday; Continuously

Analytic Time
Same day/1 day

Maximum Laboratory Time
2 days

Specimen Retention Time
1 week

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 cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83690

LOINC® Information

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<th>Test ID</th>
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<tr>
<td>LPS1</td>
<td>Lipase, S</td>
<td>3040-3</td>
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