Overview

Useful For

Evaluating cryoglobulins in patients with vasculitis, glomerulonephritis, and lymphoproliferative diseases

Evaluating cryoglobulins in patients with macroglobulinemia or myeloma in whom symptoms occur with cold exposure

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMFXC</td>
<td>Immunofixation Cryoglobulin</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

If cryoglobulin has a positive result after 1 or 7 days, then immunofixation will be performed at an additional charge. Positive cryoglobulins of 0.1 mL or above of precipitate will be typed once.

Also orderable as part of a profile. For more information see CRGSP / Cryoglobulin and Cryofibrinogen Panel, Serum and Plasma.

Method Name

CRY_S: Quantitation and Qualitative Typing Precipitation at 1 Degree C.
Also orderable as part of a profile. For more information see CRGSP / Cryoglobulin and Cryofibrinogen Panel, Serum and Plasma.

IMFXC: Immunofixation

NY State Available

Yes

Specimen

Specimen Type

Serum Red

Specimen Required

Collection Container/Tube: Red top

Submission Container/Tube: Plastic vial

Specimen Volume: 5 mL

Collection Instructions:

1. Tube must remain at 37 degrees C.
2. Allow blood to clot at 37 degrees C.

3. Centrifuge at 37 degrees C. (Do not use a refrigerated centrifuge. If absolutely necessary, ambient temperature is acceptable.) It is very important that the specimen remain at 37 degrees C until after separation of serum from red cells.

4. Place serum into an appropriately labeled plastic vial.

Additional Information: Analysis cannot be performed with less than 3 mL of serum. Smaller volumes are insufficient to detect clinically important trace (mixed) cryoglobulins. Less than 3 mL will require draw of a new specimen.

Forms
If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

Specimen Minimum Volume
3 mL

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

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>Serum Red</td>
<td>Refrigerated</td>
<td>(preferred)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Clinical and Interpretive

Clinical Information
Cryoglobulins are immunoglobulins that precipitate when cooled and dissolve when heated. Because these proteins precipitate when cooled, patients may experience symptoms when exposed to the cold. Cryoglobulins may be associated with a variety of diseases including plasma cell disorders, autoimmune diseases, and infections. Cryoglobulins may also cause erroneous results with some automated hematology instruments.

Cryoglobulins are classified as:

- Type I (monoclonal)
- Type II (mixed--2 or more immunoglobulins of which 1 is monoclonal)
- Type III (polyclonal--in which no monoclonal protein is found)

Type I cryoglobulinemia is associated with monoclonal gammopathy of undetermined significance,
macroglobulinemia, or multiple myeloma.

Type II cryoglobulinemia is associated with autoimmune disorders such as vasculitis, glomerulonephritis, systemic lupus erythematosus, rheumatoid arthritis, and Sjogren's syndrome. It may be seen in infections such as hepatitis, infectious mononucleosis, cytomegalovirus, and toxoplasmosis. Type II cryoglobulinemia may also be essential, ie, occurring in the absence of underlying disease.

Type III cryoglobulinemia usually demonstrates trace levels of cryoprecipitate, may take up to 7 days to appear, and is associated with the same disease spectrum as Type II cryoglobulinemia.

**Reference Values**

Negative (positives reported as percent)

If positive after 1 or 7 days, immunotyping of the cryoprecipitate is performed at an additional charge.

**Interpretation**

An interpretive report will be provided.

**Cautions**

Failure to follow specimen handling instructions may cause false-negative results.

Not useful for general screening of a population without a clinical suspicion of cryoglobulinemia.

**Clinical Reference**


**Performance**

**Method Description**

The normal proteins of serum do not precipitate in the cold. An aliquot of serum is incubated for 24 hours at 1 degree C. If a precipitate develops in the serum, the specimen is centrifuged and the percent precipitate is reported. Negative specimens are kept at 1 degree C for 7 days and rechecked. All positive cryoglobulins are analyzed by immunofixation to determine if the precipitate is a monoclonal protein, polyclonal protein, or a mixed cryoglobulin. (Lerner AB, Watson CJ: Studies of cryoglobulins. I. Unusual purpura associated with the presence of a high concentration of cryoglobulin [cold precipitable serum globulin]. Am J Med Sci 1947;214:410-415)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Friday; 4 pm

**Analytic Time**

2 days

**Maximum Laboratory Time**

10 days

**Specimen Retention Time**

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2 weeks

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 uses a standard method. 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 U.S. Food and Drug Administration.

CPT Code Information
82595

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CRY_S</td>
<td>Cryoglobulin, S</td>
<td>12201-0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2684</td>
<td>Cryoglobulin, S</td>
<td>12201-0</td>
</tr>
</tbody>
</table>