Orderable - CRYO PANEL

Turnaround Time: Negatives: 10 days / Positives: 14 days

Alternate Name(s):
Cryoglobulin, Serum
Cryofibrinogen, Plasma

Specimen:

<table>
<thead>
<tr>
<th>Specification</th>
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<tbody>
<tr>
<td>3 x 6 mL Red Top Vacutainer tubes</td>
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<tr>
<td>2 x 4 mL lavender Top Vacutainer tubes</td>
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<tr>
<td>1 x 4.5 ml Green Top Vacutainer tube</td>
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Collection Information:
Fasting samples preferred but not mandatory.

Caution: Specimen is not acceptable when drawn on a patient receiving heparin or any other anti-coagulant. Heparin (Dalteparin) needs to be stopped 24 hours and Lovenox needs to be stopped 35 hours before sample can be collected.

Collection Time: Monday-Friday, no STAT holidays or weekends.

Prior to Collection:
• City-wide: Call Core Lab to request a thermos.
• Provide name/unit location

Sample Collection Instructions:
• Collect and fill 3 red top and 2 lavender tubes until the vacuum exhausts
• Collect and fill green top tube until the vacuum exhausts, **(this tube does not need to be placed in thermos)**
• Mix well
• Open lid of thermos, place labelled tubes inside and **immediately** close

Post Sample Collection (send to Lab ASAP):
**Test Schedule:**
Monday-Thursday. No STAT holidays.

- City-wide: deliver to Core Lab (or call portering to deliver to Core Lab)

**Sample Collection Instructions for Regional Sites:**
3 x 6 ml Red Top Vacutainer tubes
2 x 4 ml Mauve Top Vacutainer tubes
The specimen tubes must remain at 37°C until the serum and plasma have been separated.
**Once separated store/ship at 4-8°C.**

1 x 4.5 ml Green (Lithium Heparin) Top Vacutainer tube
Centrifuge and separate the plasma into aliquot tubes; store/ship at 4-8 degrees.

**Reference Ranges:**
Negative

**Interpretive Comments:**
The final report for positive cryoglobulins will include:
1) Cryoglobulin type:

**Type I** - Monoclonal immunoglobulins. May be associated with Waldenström’s macroglobulinemia, multiple myeloma, monoclonal gammopathy of undetermined significance, and other lymphoproliferative diseases.

**Type II** - A mixture of immunoglobulins (usually monoclonal IgM kappa rheumatoid factor complexed with polyclonal IgG). Mainly associated with viral infection, particularly hepatitis C and human immunodeficiency virus infections. It can be seen in autoimmune diseases, such as Sjögren’s syndrome and systemic lupus erythematosus.

**Type III** - Polyclonal immunoglobulins. May be associated with chronic infections (hepatitis, human immunodeficiency, Epstein-Barr virus, and cytomegalovirus), as well as autoimmune diseases. This disorder may be a precursor to type II cryoglobulinemia.

2) Cryoglobulin concentration (g/L).

3) IgG, IgA and IgM concentrations in cryoprecipitate (g/L).

**Special Processing:**
Immediately after the blood draw, place in a thermos filled with sand at 37°C. Arrange for rapid transport of the thermos to the Immunology lab at Victoria Hospital via the SRA.

**Comments:**
Immunofixation for identification of cryoprecipitate will only be performed on new cryoglobulin and cryofibrinogen positive samples, once per patient.

**Critical Information Required:**

Is the patient on heparin therapy?

**Storage and Shipment:**

The blood tubes must remain at 37°C until serum and plasma have been separated. After separation, the specimen can be stored or shipped at ambient temperature or refrigerated.

SRA – see specific procedure in OMNI