CRYOGLOBULIN SERUM AND CRYOFIBRINOGEN PLASMA PANEL

London Health Sciences Centre | St Joseph's Health Care London
Pathology and Laboratory Medicine

Orderable - CRYO PANEL

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

Laboratory:
Clinical Immunology Lab

Requisition:
GENERAL LABORATORY REQUISITION

Method of Analysis:
An aliquot of serum and an aliquot of plasma are incubated at 4°C for 10 days to exam if cryoprecipitate is present.

For positive cryoprecipitate samples, cryocrit is measured. If cryocrit is ≥0.01 g/L, immunofixation is performed to identify the type of immunoglobulins, or to confirm the presence of cryofibrinogen.

Concentrations of IgG, IgA and IgM in cryoprecipitate are measured by Turbidimetry.

Alternate Name(s):

Cryoglobulin, Serum
Cryofibrinogen, Plasma

Specimen:

3 x 6 mL Red Top Vacutainer tubes
2 x 4 mL Lavender Top Vacutainer tubes
1 x 4.5 ml Green Top Vacutainer tube

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):

CRYOGLOBULIN SERUM AND CRYOFIBRINOGEN PLASMA PANEL

• 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.

Test Schedule:
Monday-Thursday. No STAT holidays.

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).

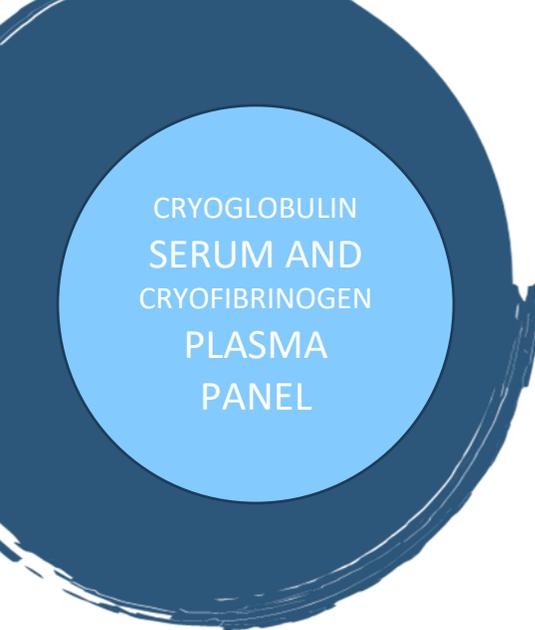3) IgG, IgA and IgM concentrations in cryoprecipitate (g/L).

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:

CRYOGLOBULIN
SERUM AND
CRYOFIBRINOGEN
PLASMA
PANEL

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