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**Lab Dept:** Chemistry

**Test Name:** CRYOGLOBULIN, PLASMA AND SERUM

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***General Information***

**Lab Order Codes:** CRGL

**Synonyms:** Cryofibrinogen; Cryoprecipitates; Cryoprotein

**CPT Codes:** 82595 – Cryoglobulin, qualitative or semi quantitative  
82585 – Cryofibrinogen  
86334 - Immunofixation (if appropriate)

**Test Includes:** Quantitation and qualitative typing, precipitation at 1 degree centigrade. Includes cryofibrinogen. If cryoglobulin has a result other than negative, Immunofixation will be performed at an additional charge. Positive cryoglobulins of  $\geq 0.1$  mL of precipitate will be typed once.

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***Logistics***

**Test Indications:** Useful for evaluating patients with vasculitis, glomerulonephritis, lymphoproliferative disease. Cases of macroglobulinemia or myeloma in whom symptoms occur with cold exposure.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Medical Laboratories (MML Test:CRGSP)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 2 – 10 days, test set-up Monday – Friday.

**Special Instructions:** See [Container](#) and [Collection](#). Requires both EDTA plasma and serum.

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***Specimen***

**Specimen Type:** Blood

**Container:** Red top (no gel) tube and Lavender top (EDTA, no gel) tubes

**Note:** Both tubes are required. Serum is used for cryoglobulin and plasma is used for cryofibrinogen.

**Draw Volume:** Red top: 15 mL (Minimum: 9 mL) blood  
Lavender top: 3 mL (Minimum: 1.5) blood

**Processed Volume:** Serum: 5 mL (Minimum: 3 mL)  
Plasma: 1 mL (Minimum: 0.5 mL)

**Collection:** Routine venipuncture. Keep both specimens warm (37°C Water Bath or Heel Warmer) and deliver to laboratory immediately. Mix lavender top tube by gentle inversion. The serum tube must clot at 37°C for 30 to 60 minutes before processing.

**Special Processing:** Lab Staff:  
  
**Red top NO GEL** - Maintain the specimen at 37°C in a water bath until clotted. Allow specimen to clot for 30 to 60 minutes. If the specimen has not been maintained at 37°C from the time of collection, allow the specimen to clot in 37°C water bath for 3 hours. Centrifuge at 37°C. Remove serum and aliquot into a plastic tube and store in refrigerator. Label specimen as serum sample. Ship at refrigerated temperatures.  
  
**Lavender top NO GEL** - Maintain the specimen at 37°C including centrifugation. Remove plasma aliquot into a screw-capped round bottom plastic vial. Label as plasma sample. Store and ship at refrigerated temperatures.

**Patient Preparation:** None

**Sample Rejection:** Not maintained at 37°C prior to processing or gross hemolysis; mislabeled or unlabeled specimens; specimens collected in gel tubes; gross hemolysis; gross lipemia; grossly icteric; less than the amount of serum/plasma specified above

***Interpretive***

**Reference Range:**

<p>Cryoglobulin: Negative</p> <p><b>Note:</b> Positives will be reported as a percent. If positive after 1 or 7 days, immunotyping of the cryoprecipitate is performed at an additional charge.</p>
<p>Cyrofibrinogen: Negative</p> <p><b>Note:</b> Reported as positive or negative. Quantitation and immunotyping will not be performed on positive cyrofibrinogen.</p>
<p>An interpretive report will be provided.</p>

**Critical Values:** None

**Limitations:** 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.

**Methodology:** Quantitation and Qualitative Typing, Precipitation at 1 degree C. When indicated may include Immunofixation,

**References:** [Mayo Medical Laboratory](#) December 2017

**Updates:**  
3/4/2004: Test moved from Fairview Diagnostic Laboratory to MML. Test now includes both cryofibrinogen and cryoglobulin.  
1/31/2007: MML has split out Immunofixation from this test and will only perform and charge for it with a positive cryoglobulin. Order code previously listed as 9052.  
8/29/2007: Positive cryoglobulins of  $\geq 0.1$  mL of precipitate will be typed once every 6 months.  
9/27/2010: Specimen volume updates.  
12/20/17: Updated specimen volumes.