

Overview

Useful For

- Heavy and light chain pair quantitation may be useful for:
1. Distinguishing between broadly migrating monoclonal proteins and restricted polyclonal immunoglobulin patterns on serum electrophoresis.
  2. Quantitating monoclonal IgM proteins that are difficult to quantitate using serum protein electrophoresis alone.
  3. Providing a more specific quantitation of the monoclonal protein than total IgM measurements alone.

Method Name

Turbidimetric

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

- Patient Preparation:** Patient should be fasting for eight hours to avoid lipemic sample interference.
- Specimen Type:** Serum
- Collection Container/Tube:** SST or Red top
- Submission Container/Tube:** Plastic vial
- Specimen Volume:** 0.75 mL
- Collection Instructions:**
1. Draw blood in a plain red-top tube, serum gel tube(s) is also acceptable.
  2. Separate serum immediately after coagulation (30 minutes) to prevent hemolysis. Send 0.75 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume

0.5 mL

Reject Due To

Hemolysis	Mild reject; Gross reject
Lipemia	Mild reject; Gross reject
Icterus	NA

Other	Microbially-contaminated specimen; specimen containing particulate matter
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Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	7 days	
	Ambient	7 days	
	Frozen	7 days	

Clinical & Interpretive

Clinical Information

Elevated serum concentrations of monoclonal protein are indicative of an underlying abnormality, such as monoclonal gammopathy of undetermined significance (MGUS), multiple myeloma, Waldenström's macroglobulinemia and other lymphoproliferative disorders. Serum protein electrophoresis (SPE) densitometry is recommended to quantify monoclonal proteins.

Nephelometry can also be used in these instances to measure total IgM, but this will include nontumor immunoglobulin, and measurement of either IgM Kappa or IgM Lambda may provide additional information regarding tumor production.

Reference Values

IgM Kappa (g/L): 0.29-1.82  
IgM Lambda (g/L): 0.17-0.94  
IgM Kappa:IgM Lambda ratio: 0.96-2.30

Interpretation

An elevated IgM heavy and light chain (HLC) pair ratio suggests a clonal proliferation of an IgM kappa clone of plasma cells.

A low IgM HLC pair ratio suggests a clonal proliferation of an IgM lambda clone of plasma cells.

Cautions

Decisions on patient evaluation and management must not be given on the basis of IgM Kappa, IgM Lambda, or IgM Kappa:IgM Lambda ratio measurements alone. Clinical history and other laboratory findings must be taken into account. Heavy and light chain (HLC) quantitation should be used as a complementary method to serum protein electrophoresis. The effect of therapeutic drugs on the measurement of IgM Kappa and IgM Lambda by this assay has not been evaluated.

Small increases in the concentrations of monoclonal IgM proteins may not result in an altered HLC pair ratio.

Clinical Reference

1. Smith A, Wisloff F, Samson D; UK Myeloma Forum; Nordic Myeloma Study Group; British Committee for Standards in Haematology. (2005) Guidelines on the diagnosis and management of multiple myeloma 2005. Br J Haematol. 2006 Feb; 132(4):410-451. PubMed 16412016

2. Bradwell AR, Harding S, Drayson M, Mead G. Novel nephelometric assays give a sensitive measure of residual disease in multiple myeloma (MM). Br J Haematol. 2008; 141(s1):39. Abstract 107.

3. Kyle RA, Rajkumar SV. Monoclonal gammopathies of undetermined significance: A review. Immunol Rev. 2003 Aug; 194:112-139. PubMed 12846812

Performance

PDF Report

No

Day(s) Performed

Tuesday, Friday

Report Available

1 to 9 days

Performing Laboratory Location

LabCorp Burlington

Fees & 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 account representative. For assistance, contact [Customer Service](#).

CPT Code Information

83883 x 2

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
FHLC	IgM Heavy Light Chains (HLC), S	Obsolete

Result ID	Test Result Name	Result LOINC® Value
Z5399	IgM Kappa, S	74866-5
Z5400	IgM Lambda, S	74867-3
Z5401	IgM K/L HLC Ratio	74870-7