
Lab Dept: Chemistry

Test Name: MONOCLONAL PROTEINS, QUANTITATIVE, SERUM

General Information

Lab Order Codes: QMPSS

Synonyms: Protein ELP, Serum; SPEP, Immunoglobulin study, Serum protein evaluation

CPT Codes: 82784 x 3 – Immunoglobulins
0077U – M-protein isotype, if appropriate

Additional codes and charges may apply if reflex testing is performed.

Test Includes: Quantitative values in mg/dL for IgA, IgM, and IgG.

If a light chain is identified without a corresponding heavy chain during initial testing, immunofixation with immunoglobulin D (IgD) and immunoglobulin E (IgE), will be performed at an additional charge.

If a monoclonal IgD or IgE is identified during initial testing, IgD or IgE will be performed at an additional charge.

Logistics

Test Indications: Aids in the diagnosis and monitoring of monoclonal gammopathies, when used in conjunction with free light chain studies. This test alone is not considered an adequate screen for monoclonal gammopathies.

Lab Testing Sections: Chemistry – Sendouts

Referred to: Mayo Clinic Laboratories (MML Test: QMPSS)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 – 4 days, test performed Monday – Friday.

Special Instructions: N/A

Specimen

Specimen Type:	Blood
Container:	SST (Marble, gold or red); red no gel is acceptable.
Draw Volume:	6 mL (Minimum: 4.5 mL) blood
Processed Volume:	2 mL (Minimum: 0.75 mL) serum
Collection:	Routine blood collection
Special Processing:	Lab Staff: Centrifuge and aliquot serum into 2 plastic vials , each containing 1 mL (each with 0.75 mL minimum). Store and ship at refrigerated temperatures. Forward promptly. Specimen is stable refrigerated (preferred) or frozen for 28 days, 7 days ambient.
Patient Preparation:	N/A
Sample Rejection:	Specimens other than serum; mislabeled or unlabeled specimens

Interpretive

Reference Range:

Monoclonal-protein Isotype Flag: Negative

Interpretation: No monoclonal protein detected.

IgG:

0-<5 months: 100-334 mg/dL
5-<9 months: 164-588 mg/dL
9-<15 months: 246-904 mg/dL
15-<24 months: 313-1,170 mg/dL
2-<4 years: 295-1,156 mg/dL
4-<7 years: 386-1,470 mg/dL
7-<10 years: 462-1,682 mg/dL
10-<13 years: 503-1,719 mg/dL
13-<16 years: 509-1,580 mg/dL
16-<18 years: 487-1,327 mg/dL
> 18 years: 767-1,590 mg/dL

IgA:

0-<5 months: 7-37 mg/dL
5-<9 months: 16-50 mg/dL
9-<15 months: 27-66 mg/dL
15-<24 months: 36-79 mg/dL
2-<4 years: 27-246 mg/dL
4-<7 years: 29-256 mg/dL
7-<10 years: 34-274 mg/dL
10-<13 years: 42-295 mg/dL
13-<16 years: 52-319 mg/dL
16-<18 years: 60-337 mg/dL
≥ 18 years: 61-356 mg/dL

IgM:

0-<5 months: 26-122 mg/dL
5-<9 months: 32-132 mg/dL
9-<15 months: 40-143 mg/dL
15-<24 months: 46-152 mg/dL
2-<4 years: 37-184 mg/dL
4-<7 years: 37-224 mg/dL
7-<10 years: 38-251 mg/dL
10-<13 years: 41-255 mg/dL
13-<16 years: 45-244 mg/dL
16-<18 years: 49-201 mg/dL
≥ 18 years: 37-286 mg/dL

Critical Values:

N/A

Limitations:

Quantitation of immunoglobulin (Ig) D, IgE, free kappa and free lambda monoclonal proteins cannot be performed by this assay. Free light chain M-proteins should be quantified using test code FLCS / Immunoglobulin Free light Chains, Serum. IgD and IgE should be quantified using test code IgD / Immunoglobulin D (IgD), Serum or IgE / Immunoglobulin E (IgE), Serum.

Methodology:

QMPTS: Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS)

IGG, IGA, IGM: Nephelometry

TMAB: Patient Information

References:

[Mayo Clinic Laboratories](#) February 2024

Updates:

2/22/2024: Initial entry. Replaces obsolete SELP (Mayo's SPEP) due to improved methodology to quantify monoclonal proteins.