

Monoclonal Protein Screen, 24 Hour, Urine

Test ID: SMPU

Useful for:

Monitoring patients with monoclonal gammopathies

Profile Information:

Test ID	Reporting Name	Available Separately	Always Performed
MPTU	M-protein Mass-Fix, 24 HR, U	No	Yes
PTU3	Protein, Total, 24 HR, U	Yes	Yes

Reflex Tests:

Test ID	Reporting Name	Available Separately	Always Performed
PEU	Protein Electrophoresis, 24 HR, U	No	No

Testing Algorithm:

Testing for urine monoclonal proteins (M-proteins) with mass-fix alone is not considered adequate screening for monoclonal gammopathies.

The laboratory will evaluate the urine for M-proteins using the mass-fix method, and if positive for M-protein, protein electrophoresis will be performed at an additional charge.

The following algorithms are available:

[-Amyloidosis: Laboratory Approach to Diagnosis](#)

[-Multiple Myeloma: Laboratory Screening](#)

Methods:

PTU3: Turbidimetry

PEU: Agarose Gel Electrophoresis

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

Reference Values:

PROTEIN, TOTAL

<229 mg/24 hours

Reference values have not been established for patients younger than 18 years of age.

ELECTROPHORESIS, PROTEIN

The following fractions, if present, will be reported as mg/24 hours:

Albumin
Alpha-1-globulin
Alpha-2-globulin
Beta-globulin
Gamma-globulin

MASS-FIX M-PROTEIN ISOTYPE

M-protein Isotype MS:

No monoclonal protein detected

Flag M-protein Isotype MS:

Negative

Necessary Information:

24-Hour volume is required.

Specimen Requirements:

Supplies:	Urine Container, 60 mL (T313)
Submission Container/Tube:	Plastic, 60-mL urine bottle
Specimen Volume:	50 mL
Minimum Volume:	30 mL
Collection Instructions:	1. Collect urine for 24 hours. 2. Aliquot between 30 mL and 50 mL urine into plastic, 60-mL urine bottle.
Additional Information:	See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens for multiple collections.

Urine Preservative Collection Options:

Note: The addition of preservative or application of temperature controls **must occur within 4 hours of completion** of the collection.

Ambient	OK
Refrigerate	Preferred
Frozen	OK
50% Acetic Acid	No
Boric Acid	No
Diazolidinyl Urea	OK
6M Hydrochloric Acid	No
6M Nitric Acid	No
Sodium Carbonate	No
Thymol	OK
Toluene	No

Specimen Stability Information:

Specimen Type	Temperature	Time
Urine	Refrigerated (preferred)	14 days
	Ambient	24 hours
	Frozen	5 days

Cautions:

Monoclonal gammopathies are rarely seen in patients younger than 30 years of age.

Hemolysis may cause a discrete band on protein electrophoresis, which will be negative on isotyping.

Penicillin may split the albumin band.

Radiographic agents may produce an uninterpretable pattern.

CPT Code:

84156

84166 Electrophoresis, protein (if appropriate)

0077U

Day(s) Performed: Monday through Friday

Report Available: 4 to 6 days

Questions

Contact Amy Ennis, Laboratory Resource Coordinator at 800-533-1710.