Bence Jones Protein (Urinary light chains) Urine immunofixation

General information

When a normal plasma cell produces immunoglobulin it always produces an excess of the light chains; this normal polyclonal excess is excreted in the urine and can be detected in highly concentrated urine. Bence Jones proteins, however, are monoclonal free light chains that are produced in excess by neoplastic plasma cells. They can be detected in urine and their presence aids the diagnosis of Multiple Myeloma, Waldenström's macroglobulinaemia, Chronic Lymphocytic Leukaemia and Amyloidosis. Light chain myeloma is particularly associated with renal tubular damage.

Specimen transport: Specimen should ideally be sent fresh

Repeat frequency: Post treatment monitoring and MRD as required

Special precautions: None

Laboratory information

Normal reference range: Absent

Volume and sample type: 20ml urine

Method: Immunofixation

Participation in EQA scheme: UK NEQAS for Monoclonal Proteins and Binding Site Urine Paraprotein Scheme

Turnaround time (calendar days from sample receipt to authorised result): Median - 5

Clinical information

Indications for the test: Suspected myeloma, Waldenström's macroglobulinaemia, rarely lymphoma.

Factors affecting the test: 24 hour urine is more sensitive. Polyclonal free light chains may be found with renal tubular damage, old age, chronic inflammatory conditions (like RA).

Monoclonal light chains may also be found associated with prostatic problems in older men.

ICE reference: Bence Jones Protein

(Last updated September 2021)