Free Light Chains

General information

This test measures immunoglobulin light chains not incorporated into intact immunoglobulin molecules. Serum levels are increased when production is increased (myeloma) or excretion is impaired (renal failure)

Demystifying Serum Free Light Chains – a guide for primary care: https://mft.nhs.uk/the-trust/otherdepartments/laboratory-medicine/information-for-gps/laboratory-medicines-newsletter-forgps/demystifying-serum-free-light-chains-a-guide-for-primary-care/

Specimen transport: At room temperature

Repeat frequency: Initial diagnosis, post treatment monitoring for suspected relapse

Special precautions: Should be measured alongside immunoglobulins and electrophoresis

Laboratory information

Normal reference range:

- Ratio 0.26-1.65
- Free κ = 3.30-19.40 mg/L
- Free λ = 5.71-26.30 mg/L

Volume and sample type: 4ml serum

Method: Turbidimetry

Turnaround time (calendar days from sample receipt to authorised result): Median - 3

Participation in EQA Scheme: UK NEQAS for Monoclonal Protein identification

Clinical information

Indications for the test: May be used as part of the diagnostic strategy for myeloma. This test has largely superseded Bence Jones protein (urine immunofixation).
Monitoring in some cases of myeloma.

Factors affecting the test: Antigen excess can cause falsely low serum FLC results. Some monoclonal light chains (particularly k FLC) do not dilute in a linear fashion and may be underestimated. FLC results can be artificially elevated when an IgM monoclonal protein is present.

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