

# Selenium

## Synonyms

Se

## Clinical Indication

Outside of China, symptomatic selenium deficiency in humans appears to be restricted to patients on parenteral nutrition and children with inborn errors of metabolism on specialised diets, especially patients on a non-supplemented synthetic amino acid diet (e.g., phenylketonuria, total parenteral nutrition). Such diets are now usually supplemented with selenium.

Significant selenium deficiency is manifest primarily as cardiomyopathy. This correlates poorly with serum selenium levels and rarely occurs in selenium deficient patients on total parenteral nutrition. Selenium toxicity generally only occurs only after ingestion of selenium as a chemical, rather than from a high dietary intake. Chronic ingestion of megadoses of selenium supplement would be required for toxicity to occur.

## Part of Profile / See Also

## Request Form

Combined Pathology manual Blood form or ICE request

## Availability / Frequency of Analysis

 Referred test: Analysed at the Trace Element Laboratory, Kings College Hospital [Synnovis 9067](#), if specific criteria met.

## Turnaround Time

2 Weeks

## Patient Preparation

None required.

## Sample Requirements

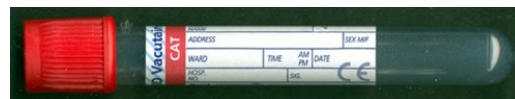
### Specimen Type

Serum

### Volume

2 ml.

### Container



Red top (plain) tube is preferred



but pink/purple top (EDTA) is acceptable



Paediatric lithium heparin (Orange top – Sarstedt tube)



Paediatric lithium heparin (Pale green top – BD Microtainer)

Please also send an empty 'control' tube that is the same as the tube that the sample has been taken into. Yellow top (SST) tubes must not be used.

## Reference Range & Units

0.45 – 1.47 umol/L in children

0.90 – 1.67 umol/L in adults

## Interferences

### Interpretation & Clinical

### Decision Value (if applicable)

There is some debate as to what is the most appropriate index of selenium status, but in clinical practice serum/plasma selenium is usually measured. Normal selenium concentrations are age-dependent being lower in neonates. There is evidence that selenium is a negative acute phase reactant and this should be excluded by concurrent measurement of CRP.

### References

<http://www.viopath.co.uk/our-tests/selenium>

### Test code

SE

### Lab Handling

Aliquot 500ul and store in referrals rack at 4C. Sent daily by courier to King's College, London.



9067

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