MAYO CLINIC LABORATORIES

Test Definition: SEWB

Selenium, Blood

Overview

Useful For
Assessment of tissue stores of selenium

Special Instructions
- Metals Analysis Specimen Collection and Transport

Method Name
Triple-Quadrupole Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

NY State Available
Yes

Specimen

Specimen Type
Whole blood

Ordering Guidance
This test can be used to assess tissue stores of selenium. For routine assessment of selenium deficiency or toxicity, the preferred test is selenium urine.

For assessment of recent intake, order SES / Selenium, Serum.

Specimen Required
Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most inductively coupled plasma mass spectrometry-based metal tests. If either gadolinium- or iodine-containing contrast media has been administered, **a specimen should not be collected for at least 96 hours.**
Container/Tube: Royal blue top (EDTA) plastic trace element blood collection tube
Specimen Volume: 0.8 mL
Collection Instructions:
1. See Metals Analysis Specimen Collection and Transport for complete instructions.
2. Send whole blood specimen in original tube. **Do not aliquot**.

Specimen Minimum Volume
0.3 mL

Reject Due To

Gross	OK

hemolysis	
Gross lipemia	OK
Gross icterus	OK
Microtainer	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Whole blood	Refrigerated (preferred)	28 days	
	Ambient	28 days	
	Frozen	28 days	

Clinical & Interpretive

Clinical Information

Selenium is a naturally occurring, solid substance that is widely but unevenly distributed in the earth's crust. Selenium and its compounds are used in some photographic devices, gun bluing, plastics, paints, antidandruff shampoos, vitamin and mineral supplements, fungicides, and certain types of glass. Selenium is also used to prepare drugs and as a nutritional feed supplement for poultry and livestock. It is an essential element for humans and animals.

People are exposed to low levels of selenium daily through food, water, and air. Plasma and serum typically contain approximately 75% of the selenium measured in whole blood. Selenium whole blood concentrations can be used to assess tissue stores. For routine assessment of selenium deficiency or toxicity, the preferred test is selenium urine.

Reference Values

0-17 years: Not established
> or =18 years: 150-241 ng/mL

Interpretation

Ultimately, any metal ion concentration value needs to be interpreted in relation to the overall clinical scenario including symptoms, physical findings, and other diagnostic results when determining further actions.

Cautions

No significant cautionary statements

Clinical Reference

1. US Department of Health and Human Services: Toxicological profile for selenium. HHS: Agency for Toxic Substances and Disease Registry; 2003. Accessed February 09, 2024. Available at www.atsdr.cdc.gov/toxprofiles/tp92.pdf
2. Strathmann FG, Blum LM: Toxic elements. In: Rifai N, Chiu RWK, Young I, Burnham CD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:chap 44

Performance

Method Description
The metal of interest is analyzed by inductively coupled plasma mass spectrometry.(Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Monday

Report Available
2 to 8 days

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
84255

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SEWB	Selenium, B	5722-4

Result ID	Test Result Name	Result LOINC® Value
65600	Selenium, B	5722-4