

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

### Specimen Required

\*\*\*This specimen container cannot be opened or used for any other testing before shipping.\*\*\*

**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.

#### Supplies:

- Metal Free EDTA 3 mL Tube (T989)
- Metal Free B-D Tube (EDTA), 6 mL (T183)

#### Container/Tube:

**Preferred:** Royal blue-top BD vacutainer with EDTA blood collection tube (3 mL) (BD catalog no. 367777) (T989)

**Acceptable:** Royal blue-top BD Vacutainer Plus with EDTA blood collection tube (6 mL) (BD catalog no. 368381) (T183)

**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 hemolysis	OK
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.

**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 December 3, 2024. Available at [www.atsdr.cdc.gov/toxprofiles/tp92.pdf](http://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

Mayo Clinic Laboratories - Rochester Superior Drive

## 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