MAYO CLINIC LABORATORIES

Test Definition: FCATB

Carotene, Beta

Overview

Useful For

Confirming the diagnosis of carotenoderma

Detecting fat malabsorption

Method Name

High-pressure liquid chromatography (HPLC)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Patient Preparation:

1. **Fasting: 12 hours, required**
 a. Blood should be collected before breakfast in the morning and prior to receiving any medication
 b. Infants younger than 6 months, collect specimen before next feeding.
2. Patient **must not** consume any alcohol for 24 hours before specimen collection.

Supplies: Amber Frosted Tube, 5 mL (T915)

Collection Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Submission Container/Tube: Amber vial

Specimen Volume: 0.7 mL

Collection Instructions:

1. Within 1 hour of collection, centrifuge and aliquot 0.7 mL of serum into an amber vial to protect from light.
2. Ship ambient.

Specimen Minimum Volume

0.4 mL

Note: This volume does not allow for repeat testing.

Reject Due To

Hemolysis	Reject

Specimen not protected from light	Reject
Specimen other than serum	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Ambient (preferred)	14 days	LIGHT PROTECTED
	Refrigerated	14 days	LIGHT PROTECTED
	Frozen	14 days	LIGHT PROTECTED

Clinical & Interpretive

Clinical Information

Vitamin A serum levels do not correlate well with liver stores. Carotenemia may be confused with jaundice. It is also reported high with some cases of diabetes mellitus, myxedema, chronic nephritis, nephrotic syndrome,(1,2) liver disease, hypothyroidism, type I, IIA, and IIB hyperlipoproteinemia, and in a group of amenorrheic hypogonadotropic women.(1) An inverse relationship between serum beta-carotene and the risk of bronchogenic squamous cell carcinoma is reported.(3) The highest carotene levels are found in the serum of faddists ingesting large amounts of vegetables.(4) Oral leukoplakia responds well to beta-carotene therapy.(5) Low beta-carotene levels are associated with oral contraceptives and smoking.(6)

Reference Values

3-91 ug/dL

Interpretation

Depressed carotene levels may be found in cases of steatorrhea.

Cautions

High levels are useful to rule out steatorrhea but lower values lack specificity. There is poor sensitivity.

High levels are found in the serum of individuals ingesting large amounts of vegetables.

Clinical Reference

1. Kemmann E, Pasquale SA, Skaf R. Amenorrhea associated with carotenemia. JAMA. 1983;249(7):926-929
2. McNeely MD. Gastrointestinal function. In: Sonnenwirth AC, Jarett L, eds. Gradwohl's Clinical Laboratory Methods and Diagnosis. 8th ed. St Louis, Mo: Mosby-Year Book Inc;1980:517-536
3. Menkes MS, Comstock GW, Vuilleumier JP, Helsing KJ, Rider AA, Brookmeyer R. Serum beta-carotene, vitamins A and E, selenium, and the risk of lung cancer. N Engl J Med. 1986;315(20):1250-1254
4. Gerard SK. Serum carotene: A screening test for malabsorption. Pathologist. 1986;36-37
5. Garewal HS, Meyskens FL Jr, Killen D, et al. Response of oral leukoplakia to beta-carotene. J Clin Oncol.

1990;8(10):1715-1720
6. Palan PR, Romney SL, Vermund SH, Mikhail MG, Basu J. Effects of smoking and oral contraception on plasma beta-carotene levels in healthy women. Am J Obstet Gynecol. 1989;161(4):881-885

Performance

PDF Report
No

Day(s) Performed
Monday, Wednesday, Friday

Report Available
5 to 10 days

Performing Laboratory Location
LabCorp Burlington

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.

CPT Code Information
82380

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
FCATB	Carotene, Beta	2053-7

Result ID	Test Result Name	Result LOINC® Value
FCATB	Carotene, Beta	2053-7