
Lab Dept: Chemistry

Test Name: VITAMIN A ASSAY

General Information

Lab Order Codes: VAS

Synonyms: Retinol

CPT Codes: 84590 – Vitamin A

Test Includes: Vitamin A (Retinol) level reported in mcg/dL.

Logistics

Test Indications: Useful for diagnosis of Vitamin A deficiency and toxicity. Monitoring Vitamin A therapy.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Medical Laboratories (Mayo Test: VITA)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 – 5 days, testing set up Monday - Friday

Special Instructions: See [Patient Preparation](#)

Specimen

Specimen Type: Blood

Container: SST (Gold or marble or red) tube

Draw Volume: 1.5 mL (Minimum: 1 mL) blood

Processed Volume: 0.5 mL (Minimum: 0.25 mL) serum

Collection: Routine venipuncture

Special Processing: Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

Patient Preparation: Patient must be fasting 12 - 14 hours (overnight fast) before specimen is collected. Infants should be drawn prior to next feeding.

Sample Rejection: Mislabeled or unlabeled specimens

Interpretive

Reference Range:

Retinol (Vitamin A):	Reference Value (mcg/dL)
0 - 6 years:	11.3 – 64.7 mcg/dL
7 - 12 years:	12.8 – 81.2 mcg/dL
13 - 17 years:	14.4 – 97.7 mcg/dL
≥18 years:	32.5 – 78.0 mcg/dL
The World Health Organization recommends supplementation when vitamin A levels fall below 20.0 mcg/dL. Severe deficiency is indicated at levels less than 10.0 mcg/dL. Vitamin A values above 120.0 mcg/dL suggest hypervitaminosis A and associated toxicity.	

Critical Values: N/A

Limitations: Acute ethanol ingestion may result in increased serum vitamin A levels. Testing of nonfasting specimens or the use of vitamin supplementation can result in elevated plasma vitamin concentrations. Reference values were established in patients who were fasting.

Methodology: Liquid Chromatography – Tandem Mass Spectrometry (LC-MS/MS), specific quantitation of retinol

References: [Mayo Medical Laboratories Web Page](#) December 2017

Updates:
6/5/2007: Addition of pediatric reference ranges.
11/18/2008: Mayo update.
9/28/2010: Change in Mayo order number (now only performed at Mayo New England), reference range and units update, specimen volume requirement decrease.
3/30/2016: SST tubes are acceptable.
12/13/2017: Protection from light no longer necessary.