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**Lab Dept:** Chemistry

**Test Name:** VITAMIN A ASSAY

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***General Information***

**Lab Order Codes:** VAS

**Synonyms:** Retinol

**CPT Codes:** 84590 – Vitamin A

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

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***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](#)

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***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

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***Interpretive***

**Reference Range:**

<b>Retinol (Vitamin A):</b>	<b>Reference Value (mcg/dL)</b>
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.