**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

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>Retinol (Vitamin A):</th>
<th>Reference Value (mcg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 6 years:</td>
<td>11.3 – 64.7 mcg/dL</td>
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</tr>
<tr>
<td>7 - 12 years:</td>
<td>12.8 – 81.2 mcg/dL</td>
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</tr>
<tr>
<td>13 - 17 years:</td>
<td>14.4 – 97.7 mcg/dL</td>
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<tr>
<td>≥18 years:</td>
<td>32.5 – 78.0 mcg/dL</td>
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</tbody>
</table>

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

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.