Lab Dept: Chemistry

Test Name: VITAMIN C

General Information

Lab Order Codes:	VITC
Synonyms:	Ascorbic Acid
CPT Codes:	82180 – Ascorbic Acid (Vitamin C), blood
Test Includes:	Vitamin C (Ascorbic acid) level reported in mg/dL.

Logistics

Test indications:	Diagnosing Vitamin C deficiency. Used as an aid to deter excessive intake.
Lab Testing Sections:	Chemistry - Sendouts
Referred to:	Mayo Clinic Laboratories (Mayo test: VITC)
Phone Numbers:	MIN Lab: 612-813-62 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	Performed Monday – Friday, results in 3-5 days
Special Instructions:	Specimen needs to be placed on wet ice after collecting and processed in the lab within 4 hours of collection.

Specimen

Specimen Type:	Blood
Container:	Green (Lithium heparin) tube
Draw Volume:	3 mL (Minimum: 1.5 mL) blood
Processed Volume:	1 mL (Minimum: 0.5 mL) plasma
Collection:	Routine blood collection

Special Processing:	Lab Staff: Specimen should come to lab on wet ice and must be processed with 4 hours of collection. Centrifuge specimen at 4 degrees C, remove plasma aliquot and place in Amber Vial (Mayo supply T192) to PROTECT FROM LIGHT. Store and ship at frozen temperatures.
Patient Preparation:	Fasting overnight (12-14 hours) (infants-draw prior to next feeding). Water can be taken as needed.
Sample Rejection:	Gross hemolysis; improper specimen; mislabeled or unlabeled specimens

Interpretive

Reference Range:	0.4 – 2.0 mg/dL * Values below 0.2 mg/dL indicate significant deficiency. * Values greater than or equal to 0.2 mg/dL and less than 0.4 mg/dL are consistent with a moderate risk of deficiency due to inadequate tissue stores. * Values of 0.4 to 2.0 mg/dL indicate adequate supply. The actual level at which vitamin C is excessive has not been defined. Values above 3.0 mg/dL are suggestive of excess intake. Whether vitamin C in excess is indeed toxic continues to be uncertain. However, limited observations suggest that this condition may induce uricosuria and, in individuals with glucose-6 phosphate dehydrogenase deficiency, may induce increased red blood cell fragility.
Critical Values:	N/A
Limitations:	Testing in non-fasting 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/MS0
References:	Mayo Clinic Laboratories (August 2020)