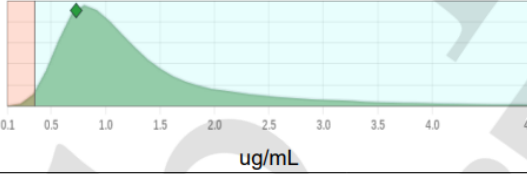
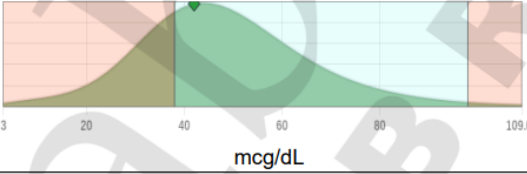
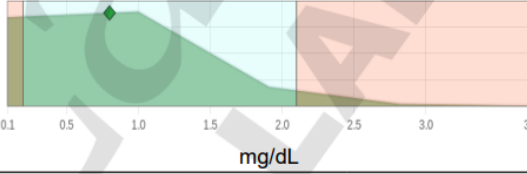
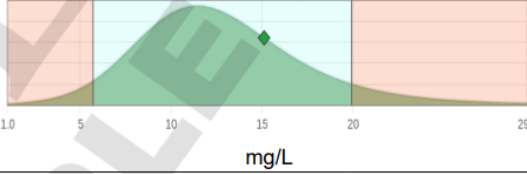


Patient Information	Specimen Information	Client Information

Micronutrients

Test Name	In Range	Out of Range	Reference Range	Population Distribution	Population Percentile	Historical Result
ANTIOXIDANTS						
COENZYME Q10(COQ10) Lab :	0.73		>0.35 ug/mL		20.7%	-
VITAMIN A (RETINOL) Lab :	42		38-98 mcg/dL		39.3%	-
VITAMIN C Lab :	0.8		0.2-2.1 mg/dL		65.0%	-
VITAMIN E, ALPHA TOCOPHEROL Lab :	15.1		5.7-19.9 mg/L		74.0%	-
VITAMIN E, BETA GAMMA TOCOPHEROL Lab :	<1.0		<4.4 mg/L			-

PERFORMING SITE:

SPECIMEN:

Patient Information	Specimen Information	Client Information

Comments

Analyte Name

COENZYME Q10(COQ10)

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Cardiometabolic Center of Excellence at Cleveland HeartLab. It has not been cleared or approved by the U.S. Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes. Coenzyme Q10 is a key component of the electron transport chain, which creates energy. It is also involved in antioxidant pathways, including the regeneration of the protective functions of Vitamin E. CoQ10 may interact with the anticoagulant (blood thinner) warfarin and the diabetes drug insulin, and it may not be compatible with some types of cancer treatment. For more information, visit <https://www.nccih.nih.gov/health/coenzyme-q10/>.

VITAMIN A (RETINOL)

Vitamin A is critical for vision, growth, and many cell functions. High levels of Vitamin A are associated with bone fractures, and is also seen with renal failure, but is not associated with toxicity from excessive ingestion. Low concentrations of Vitamin A are consistent with fat malabsorption and are rarely due to inadequate diet.

For more information, visit <https://ods.od.nih.gov/factsheets/VitaminA-HealthProfessional/>

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute, Chantilly, VA. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

VITAMIN C

Vitamin C is an antioxidant involved in connective tissue metabolism, drug-metabolizing systems, and to regenerate other antioxidants. Clinical vitamin C deficiency causes scurvy; manifestations include impaired formation of mature connective tissue, bleeding into the skin, weakness, fatigue, and depression.

For more information, visit <https://ods.od.nih.gov/factsheets/VitaminC-HealthProfessional/>

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute, Chantilly, VA. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

VITAMIN E, BETA GAMMA TOCOPHEROL

Vitamin E is used as an antioxidant and influences immune function. It helps to protect cell membranes from damaging oxidative stress. A clinical deficiency of vitamin E may cause motor and sensory neuropathy in adults. One likely cause of vitamin E deficiency is intestinal malabsorption, resulting from bowel disease, pancreatic disease, or chronic cholestasis. Other causes of malabsorption of vitamin E include celiac disease, cystic fibrosis, and intestinal lymphangiectasia.

For more information, visit <https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/>

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute, Chantilly, VA. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

End Notes:

Population Distribution Interpretation:

Quest population data from 1/1/2020 to 3/16/2021 was used to build the population distribution curves. The x-axis represents the biomarker result value and the y-axis represents the patient kernel density estimate, which is a smoothed version of the histogram.

Solid grey lines represent reference interval cutoffs. A data point at the extent of the x-axis may represent a value below/above the lower/upper limits of the x-axis range.

The population percentile indicates where a patient's result is relative to the whole population. For example, a patient result labeled as 45th percentile means 45% of the population has a test result lower than this resulted value.

PERFORMING SITE:

SPECIMEN: