



# FAT SOLUBLE VITAMINS (serum) - Genova

---

*The Fat Soluble Vitamins Profile is a great tool to gain an overall perspective of a patient's health, nutrient processing, and dietary insufficiencies. Serum levels of the fat-soluble vitamins A, D, E, K plus beta-carotene and coenzyme Q10 are measured to evaluate total body status of these antioxidant nutrients.*

Testing these nutrients together in one panel is important because nutrient functionality is dependent on the adequate supply of each nutrient. For bone health, taking vitamin D without adequate levels of vitamins A, E and K may be detrimental since all are needed for proper bone calcification. Antioxidants, such as vitamin E, CoQ10 and betacarotene, help ensure proper oxidation-reduction chain reactions.

Vitamins measured include:

- **Vitamin A** specific maintenance roles have been reported for vision, bone growth, skin and mucosal integrity, spermatogenesis, as well as protection against cataracts, atherosclerosis, macular degeneration and cancer.
- **Vitamin D** is necessary for maintaining blood levels of calcium and phosphorus for healthy teeth and bones. Vitamin D also plays a vital role in immune functions and is essential for reducing cancer risk and health maintenance.
- **Vitamin E** is an important free radical scavenger and protective antioxidant for membrane tissues, helping to stop damage to healthy cells. Both gamma and alpha tocopherol are reported to better assess oxidative stress and inflammation.
- **Vitamin K** is important in the deposition of ionic calcium needed for proper blood coagulation and bone formation. Research finds vitamin K to be a potential protector against osteoporosis, atherosclerosis, and possibly cancer.
- **Betacarotene** serves as an important antioxidant in keeping cells healthy, and also serving as a pool that is converted to vitamin A when needed. Beta-carotene also helps to identify a healthy diet.
- **Coenzyme Q10 (CoQ10)** allows food energy to be converted into cellular energy. Organs with the highest need for energy, such as the heart, lungs, and liver, require high levels of CoQ10. CoQ10 also protects cells from free radicals, helps with proper mitochondrial function, and is associated with cardiovascular health.

## ASSESSING FAT SOLUBLE VITAMINS IS ESSENTIAL IN PATIENTS WITH THESE CONDITIONS

Impaired immune function	Re-occurring infections
Neurological disease	Impaired digestion and malabsorption
Heart disease	Osteopaenia and osteoporosis
Chronic fatigue	Increased oxidative stress
Poor dietary intake	Inflammatory Bowel disease

### Genova FAT SOLUBLE VITAMINS PROFILE (blood) [4042]

- 25-Hydroxyvitamin D, 25-Hydroxyvitamin D2, 25-Hydroxyvitamin D3, Coenzyme Q10, Retinol, Undercarboxylated Osteocalcin (ucOC), alpha-Tocopherol, beta-Carotene, gamma-Tocopherol

### Other fat soluble vitamin tests available

- **Genova ION Profile (blood & urine) [4046]:** Organic Acids profile, Amino Acids profile, 8OHdG, Fatty acid profile, Homocysteine, CoQ10, Vitamin A,  $\beta$ -carotene, 25OH Vit D3 & Vit D2,  $\alpha$ -tocopherol,  $\gamma$ -tocopherol, Mg, K, Zn, Cu, Se, Ca, Al, As, Cd, Pb, Hg
- **Genova CardioION Profile (blood & urine) [4047]:** Organic Acids profile, Amino Acids profile, 8OHdG, Fatty acid profile, Homocysteine, CoQ10, Vitamin A,  $\beta$ -carotene, 25OH Vit D3 & Vit D2,  $\alpha$ -tocopherol,  $\gamma$ -tocopherol, Mg, K, Zn, Cu, Se, Ca, Al, As, Cd, Pb, Hg; Cholesterol, Triglycerides, HDL, LDL, ratios, Ferritin, Fibrinogen, hsCRP, Insulin, Testosterone, SHBG, FAI
- **Genova NutrEval Profile (blood & urine) [4049]:** Organic Acids profile, Amino acids profile, 8OHdG, Fatty acid profile; Vitamin A, Vitamin C, Vit E, ALA, CoQ10, GSH, B1, B2, B3, B5, B6, B7, B9, B12; Mg, K, Zn, Cu, Se, Mn; Sb, Sn, As, Cd, Pb, Hg
- **Antioxidant Factors (blood) [5005]:** Coenzyme Q10, Ascorbic acid, Retinol,  $\beta$ -Carotene,  $\alpha$ -Carotene, Lutein, Zeaxanthine, Lycopene, Cryptoxanthine,  $\alpha$ -Tocopherol,  $\gamma$ -Tocopherol

### How to order a test kit:

To order a test kit simply request the test name or test code on a NutriPATH request form and have the patient phone **NutriPATH Customer Service** on **1300 688 522**.

