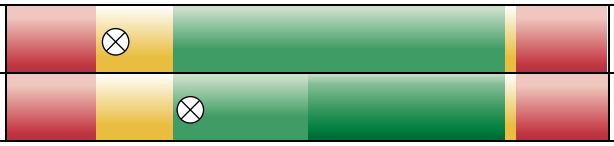
Gnosis Laboratories (M) Sdn. Bhd. (577284-A)
HQ: 1-1 & 1-2, Jalan USJ 21/11, 47630 Subang Jaya, Selangor
Tel: 603-58858501/ 8502/ 8503, 603-58858510

SAMPLE REPORT

Profile: : FNAVA: Antioxidant / Vitamin Analysis

Antioxidant/Vitamin profile

Vitamin A

	Result	Percentile (2.5th / 16th / 50th / 84th / 97.5th)	Reference Range (Optimal)
Retinol	30.6		28.6-85.1
β-Carotene	29.3		15.7-152 (64.3-152)

Unit: µg/dl

Vitamin C

Vitamin C	6.18		5.16-22.3 (12.1-22.3)

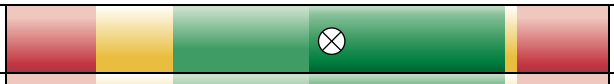
Unit: µg/ml

Phytochemicals

Lutein	27.8		13.0-76.3 (38.5-76.3)
Zeaxanthin	5.20		2.17-8.67 (5.3-8.67)
Lycopene	35.1		4.4-39.0 (18.6-39.0)

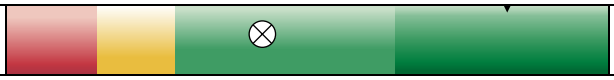
Unit: µg/dl

Vitamin E

α-Tocopherol	16.7		8.1-24.7 ◆ (15.7-24.7)
γ-Tocopherol	151		42-370 ◇ (151-370)
δ-Tocopherol	18.5		2.7-34.3 ◇ (10.6-34.3)

Unit: ◆µg/ml、◇µg/dl

CoQ_{10}

CoQ_{10}	128		59.5-240 (>200) 註一

Unit: µg/dl

Vitamin D

		Optimal (30 / 50 / 80 / 100)	
25-OHD(D2+D3)	50.1		30-100 (50-80) 註二
25-OHD3	50.1		30-100 (50-80)
25-OHD2	<1.00		

Unit: ng/ml

Antioxidant/Vitamin profile

Commentary

1. These test results are not for the diagnosis of disease. They are intended to provide nutritional guidelines to qualified healthcare professionals with full knowledge of patient history and concerns to assist in their design of an appropriate healthcare program.
2. Antioxidant/Vitamins analysis reference range for statistical analysis is based on the general public blood test results. The Reference Range is a statistical interval representing 2.5 th to 97.5 th.
3. This Green block is the recommended optimal health expectation range, based on clinical medical literature and functional health management recommendations. Clinicians may establish personalized nutrition treatment plan depending on the test result and personal health needs.
4. The marker ▼ is 95th high value of clinical reference interval, and the dark Green block is the optimal range.
5. (a) According to the Cleveland Center for Cardiovascular Disease, CoQ_{10} level should be maintained at >200 μg/dl for people with high risk of hypertension and cardiovascular disease or who are pursuing healthier body.
6. (b) The Optimal value for 25- OHD in the blood should be maintained at 50-80 ng / ml.

References

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Antioxidant/Vitamin profile

Vitamins belong to one of the five groups of nutrients essential to the body. They are antioxidants, which are capable of fighting against the harmful effects of free radicals. In achieving a biological balance, these vitamins would be able to provide sufficient protection against the damaging effects of oxidative stress, inflammation, other physical and biochemical stress, as well as prevent premature aging. The importance of achieving this biological balance can be illustrated by the following instance. The antioxidative effect of vitamin E is activated by vitamin C, which in turn is activated by glutathione. Furthermore, vitamin A (retinol) is used to enhance the antioxidant effects of vitamin E. Hence, by evaluating and appropriating the quality and quantity of the above mentioned vitamins, doctors can provide accurately for each individual, a report of their unique metabolic needs. The following is a report of the current condition of your antioxidative vitamins, with a few recommendations to help you achieve optimal health.

The following recommended report based on testing your body's antioxidant vitamins. You can refer to the following recommendations to maintain optimal health:

Retinol

Vitamin A cannot be absorbed through food. It is converted from α–carotene and β–carotene by the body. The functions of Vitamin A involve maintaining eyesight, sustaining normal functioning of the skin and mucous membranes, modulating the body' s immune functions, and maintaining the normal growth of bones and soft tissues. It has also been detected in cancer prevention.

Your Retinol level is at the lower end of the normal range. Insufficient levels of retinol can lead to respiratory tract infections. To increase retinol levels, you should increase your intake of animal liver, as well as fruits and vegetables, such as carrots, mangoes, spinach, watermelon, and papaya, which all contain a high level of β–carotene. Alternatively, you may take nutritional supplements.

β-Carotene

The current belief is that β-carotene can prevent the damages caused by free radicals on our body. It is able to prevent damage caused by ultraviolet radiation, lipid peroxidation, and suppress the conversion of cholesterol to its destructive form, which leads to atherosclerosis. It can also prevent premature aging, reduce cancer risks, and strengthen the immune system. In combination with vitamin C and E, it forms an essential triad of antioxidants in the body.

Your β-Carotene level is within the reference range.

Vitamin C

Vitamin C is a water-soluble vitamin. It is able to prevent damage caused by free radicals, and enhance the antioxidant properties of vitamin E. It also aids in the synthesis of proteins in blood vessels, skin, mucous membranes, and bones, and maintain the elasticity of skin. Moreover, it is able to increase immune function, prevent colds and flu, suppress cancer cell formation, and can ease the symptoms of stress and fatigue.

Your Vitamin C level is at the lower end of the normal range. Stress can consume a lot of vitamin C. If you are a smoker or are often exposed to cigarette smokes, your vitamin C plasma concentration will be greatly reduced. Thus increased intake of natural juices of orange, guava, strawberries, green capsicum and potatoes will be beneficial.

Antioxidant/Vitamin profile

Lutein

Lutein belongs to the carotenoid family of antioxidants. In the body lutein has been found in the eye, brain, breast and cervix. Research has shown lutein to be supportive for vision health. In the eye, it is found mainly in the macular region, the entire retina, ciliary iris bodies and lens. As an antioxidant, lutein supports the body in protecting macular tissue from photo-oxidation by filtering blue light and preventing oxidative damage by free radical quenching. Adequate levels of lutein in the eye may potentially be supportive in the absorption and dissipation of damaging UV radiation. Research involving lutein supplementation has shown a 130% increase in serum levels of lutein. Furthermore, most subjects had an increase in their macular pigment density as a result of the supplementation. Lutein is also an antioxidant that protects our cells against damage caused by dangerous, naturally occurring chemicals known as free radicals.

Your Lutein level is within the reference range.

Zeaxanthin

Zeaxanthin is a naturally occurring carotenoid, which is a pigment that is responsible for the bright colors of some fruits and vegetables. It is found in high concentration in kale, spinach, mustard and turnip greens and other leafy green vegetables. The highest concentration is found in goji berries. Like other potent antioxidants, Zeaxanthin minimizes phototoxic stress in the eye and the body. Zeaxanthin and lutein are both present in the crystalline lens of the eye where cataracts are formed. Oxidative stress is thought to be a cause of cataracts and Zeaxanthin (as well as lutein) may play a protective role in slowing or preventing the development of cataracts as shown by some research studies.

Your Zeaxanthin level is within the reference range. Zeaxanthin is usually studied in relation to ocular health, there are limited studies that would inform us of Zeaxanthin' s effect on skin health. Zeaxanthin not only intervenes in the interaction between fibroblasts and melanoma cells (notorious for metastases in skin cancer) but also inhibits the migration of fibroblasts and melanoma cells suggesting anti-tumor activity.

Lycopene

Out of all the carotenoids, lycopene is the most powerful antioxidant. It is able to prevent lipid peroxidation and suppress the conversion of cholesterol to its destructive form, both of which leads to atherosclerosis. It has also been detected in cancer prevention, especially cancer of the prostate and cervix.

Your Lycopene level is within the reference range.

α-Tocopherol

Of all the vitamin E in the body, α-Tocopherol has the highest concentration, and is the most physiologically active. It is able to prevent lipid peroxidation, and protect cell membrane and DNA against damage by free radicals. It can also suppress cancer cell growth, cardiovascular diseases and stroke, as well as delay premature aging, maintaining reproductive functions and improving symptoms related to menopause.

Your α-Tocopherol level is within the reference range.

γ - Tocopherol

Antioxidant/Vitamin profile

The body' s content of γ- Tocopherol is only second to α-Tocopherol, and it is mostly absorbed from food. The latest medical research indicates that γ-Tocopherol' s antioxidant properties may be more effective than that of α-Tocopherol. It is more effective at preventing lipid peroxidation and atherosclerosis. The absorption of γ-Tocopherol may be suppressed by excessive α-Tocopherol, resulting in an imbalance in the body.

Your γ-Tocopherol level is within the reference range.

δ - Tocopherol

δ-Tocopherol is present mainly in food. Its biochemical properties are similar to other types of vitamin E. The absorption of α-Tocopherol may be suppressed by excessive δ-Tocopherol, resulting in an imbalance in the body. Studies have shown that tocopherol enhances immunity and reduces chronic diseases such as cardiovascular disease and Alzheimer's disease, as well as cancer risk.

Your δ-Tocopherol level is within the reference range.

CoQ10

Coenzyme Q10 is a fat-soluble nutrient also known as CoQ10, or ubiquinone. It is primarily found in the mitochondria, which are the cellular organelles that produce energy for the body. Apart from the important process which provides energy, CoQ10 also stabilizes cell membranes and acts as an antioxidant. CoQ10 is widely found in foods, which provide approximately half of the body's requirement. Cold-water fish such as mackerel, salmon, sardines, and tuna are particularly high in CoQ10. Organ meats(such as heart, liver and kidney), soy oil and peanut are also good sources. The liver manufactures adequate amounts to fulfill the need not met in the diet. CoQ10 has been shown to benefit heart disease, atherosclerosis and hypertension. Scientists are also seeing the benefits of CoQ10 in treating diabetes and Parkinson's disease, lowering cholesterol, and in preventing and lessening the severity of migraines. CoQ 10 also seems to have antioxidant and anti-aging properties.

Your CoQ10 level is within the reference range. Almost no information is available about the possible symptoms of a CoQ10 overdose. In fact, it is not even known if an overdose is even possible. However, some overdose information can be assumed based on CoQ10 side effects and theoretical information about how CoQ10 works. Based on such information, it is reasonable to guess that a CoQ10 overdose might cause the following problems: Nausea、vomiting, or diarrhea.

25-OHD、25-OHD$_2$、25-OHD$_3$

Vitamin D is a steroid hormone that has long been known for its important role in regulating body levels of calcium and phosphorus, and in mineralization of bone. Vitamin D is a group of fat-soluble prohormones, the two major forms of which are vitamin D2 (or ergocalciferol) and vitamin D3 (or cholecalciferol). Vitamin D3 is produced in skin exposed to sunlight, specifically ultraviolet B radiation. Vitamin D2 is derived from plants and only enters the body via the diet, from consumption of foods such as oily fish, egg yolk and liver. Vitamin D is converted in the liver to 25-vitamin D (25-OHD), the storage form of this vitamin and the proper indicator of nutritional vitamin D status. Most tissues in the body express vitamin D receptors and can convert 25-OHD into the active form, 1,25-OHD. When 1,25-OHD binds to the vitamin D receptor, this complex acts as a transcriptional factor, which is an important regulator of gene expression. At

least 200 genes have vitamin D response elements. Vitamin D is integrated into many cellular functions, and is utilized in numerous endocrine, autocrine and, perhaps, paracrine systems.

Your 25-OHD level is within the reference range.

The above recommendations are for doctors reference only