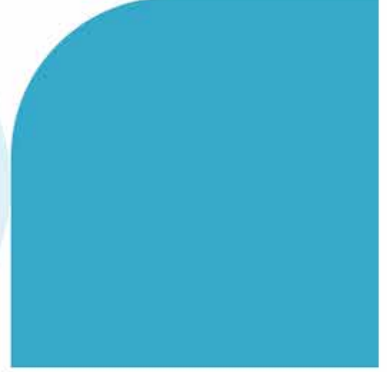
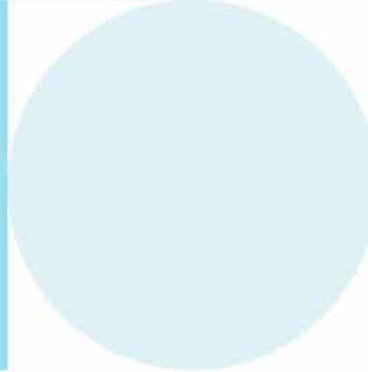
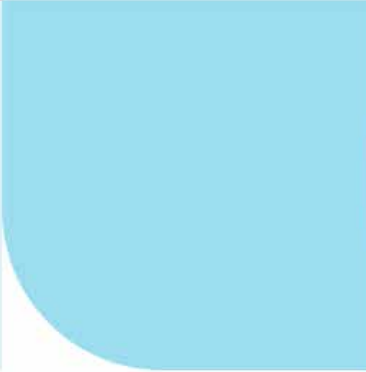
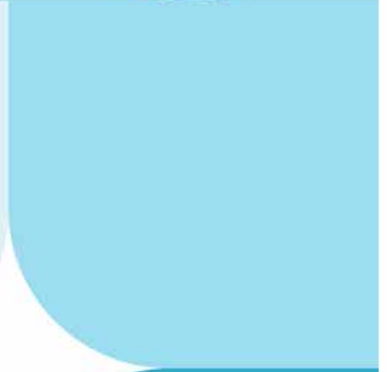
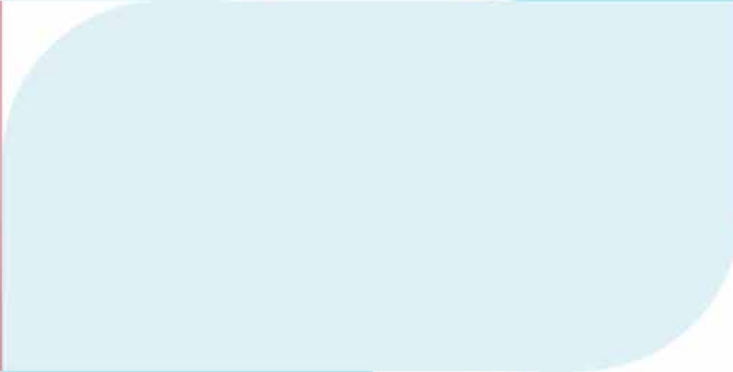




Test report



At-home test




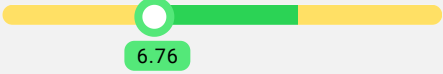

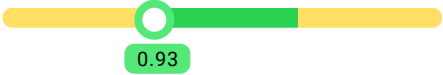






Vitamin test (B12, Folate, D, E & Q10)

Lab test

Blood

Name: **Sample Report** Date of test: **07/04/2023** Analysis-ID: **DUMMY-22**

Vitamin test (B12, Folate, D, E & Q10) - Your Results

Name	Your value	Reference value	Scale
Folate/folic acid	 6.76 ng/ml	4,4 - 31,0 ng/ml	
Coenzym Q10	 0.93 ng/ml	0,88 - 1,43 ng/ml	
Vitamin B12	 451.00 ng/ml	193 - 982 ng/ml	
Vitamin D3 (25OH)	 90.80 ng/ml	62,5 - 170 ng/ml	
Vitamin E	 11.17 ng/ml	5 - 20 ng/ml	

What is folate/folic acid?

Folate or folic acid (scientific name) also known as vitamin B9 is an important factor for growth and is prerequisite for the formation of red blood cells and for normal cell division.

Why analyze folate/folic acid?

Folate/folic acid is analyzed to determine a possible folate deficiency. The most common causes of folate deficiency are following:

- Celiac disease – dominant cause, often with concurrent B12 and iron deficiency
- Pregnancy – increased need
- Hemolytic anemia – increased need
- Alcohol abuse

What is vitamin B12?

Vitamin B12, also known as cobalamin, is 1 of 9 B vitamins. All B vitamins help the body to convert the food we eat for energy. B vitamins are also needed for healthy skin, hair, eyes and normal liver function. They also help the nervous system to function normally.

Why do we need vitamin B12?

Vitamin B12 is a particularly important vitamin for maintaining healthy nerve cells and it helps with the production of DNA and RNA. Vitamin B12 works closely with vitamin B9, also called folate or folic acid, to form red blood cells and maintain a normal blood level.

The link between vitamin B12 and folate

Vitamin B12 and folate work together to produce the deoxythymine (dTMP). dTMP is the body's universal methyl donor and plays a role in the immune system, myelin sheath maintenance and helps to produce and break down chemicals in the brain, such as dopamine, serotonin and melatonin. The lack of either vitamin B12 or folate can reduce levels of dTMP in the body.

Vitamin B12, B6 and B9 (folate) also work together to maintain homocysteine within the normal range. High levels of homocysteine are associated with cardiovascular disease, but scientists have not been able to fully find out what homocysteine is a cause of cardiovascular disease or just a marker that indicates someone may have cardiovascular disease. More research is required to determine this.

What symptoms can B12 deficiency cause?

It is unusual for young people to be deficient in vitamin B12, but it is not uncommon for older people to be deficient. This may be because they have less stomach acid than the body needs to absorb B12. Low levels of B12 can cause a variety of symptoms including:

- Fatigue
- respiratory distress
- dizziness
- hair loss
- numbness
- tingling sensation in fingers and toes
- our lack of B12 causes nerve damage

Which risk groups exist for B12 deficiency?

The people most at risk for B12 deficiency include:

- Vegans and vegetarians who do not eat dairy products or eggs, because vitamin B12 is only found in animal products, except for trace amounts in unrefined vegetables and other vegetables that cannot be only an acceptable source
- People with problems absorbing nutrients (such as celiac disease, pernicious disease, weight loss surgery, or certain medications)
- People with aging disorders
- People with HIV
- People with diabetes

Folate/folic acid can mask B12 deficiency

Folate/folic acid (vitamin B9), especially when taken in high doses, can mask the symptoms of vitamin B12 deficiency. The danger with this is that without symptoms, you can walk around with a B12 deficiency and not know about it, and can thus risk developing more serious consequences, e.g. nerve damage that is irreversible.

What is D-vitamin?

Contrary to what the name suggests, vitamin D is a steroid hormone. Vitamin D has a major impact on our health because it affects hundreds of genes in most of the body's cells. Vitamin D affects the body's ability to absorb phosphorus and calcium, which are necessary substances for a normal bone structure and normal health. Vitamin D also plays an important role in the normal functioning of the immune system.

When we stay outdoors in the summer, we build up a layer of vitamin D that the body then consumes during the dark part of the year. The body then stores vitamin D for about three months (per some) (or when stored) as it is usually not used three months after the sunny months that we had low vitamin D levels.

Why analyze D-vitamin?

Vitamin D is an important component of the body's metabolism and lack of vitamin D plays a role in many diseases. The risk of osteoporosis increases as well as winter and spring depression, multiple sclerosis, cancer, diabetes, cardiovascular disease, osteoporosis, general fatigue and obesity can increase with vitamin D deficiency.

How is vitamin D formed?

When we are out in the sun and exposed to UV radiation, the body produces vitamin D via cholesterol in the skin, which is then sent to the liver and kidneys where it is converted into an active form.

In the summer, you don't need to be outside for long periods of time for your body to form enough vitamin D. For a light-skinned person, about 15-20 minutes of sun exposure is a rather small amount. Dark-skinned and elderly people have a poorer ability to form vitamin D via the sun, which means that they may need to stay in the sun for a longer time to form enough vitamin D.

In winter, the sun in Sweden is too weak for the production of vitamin D to be completed. For that reason, most people need vitamin D supplements during the autumn and winter months.

How do you get vitamin D deficiency?

Vitamin D deficiency mostly occurs due to reduced conversion of vitamin D in the skin, and it is common for the value to be below or at the bottom of the reference range during the winter months because the sun is weaker than not strong enough for the body to be able to form vitamin D. Vitamin D deficiency can also be caused by reduced parathyroid function (hypoparathyroidism), but this is an uncommon disease.

What level of vitamin D should one have?

The body's level of vitamin D naturally varies throughout the year. During the winter months, UV radiation is too weak for the body to produce vitamin D. Vitamin D is stored in the body, so if you have had enough sunlight during the summer months, your body will use the vitamin D that is available. If you have stored less from the summer, the risk of your vitamin D level dropping to a deficient level already in the autumn increases. If you have more stored, you can last longer.

- <10 nmol/L, vitamin D deficiency
- 10-20 nmol/L, moderate deficiency
- 20-100 nmol/L, sufficient
- 100-150 nmol/L, optimal level
- >150 nmol/L, increases the risk of kidney stones
- >200 nmol/L, potential toxicity

Can you overdose on vitamin D?

Larger amounts (above 100 nmol/L) of vitamin D are toxic and can lead to high levels of calcium in the blood, calcium deposits in the kidneys and kidney failure. It is not possible to overdose on vitamin D through diet alone, but if you take food supplements that contain large amounts of vitamin D, you can overdose.

What does a high vitamin D value mean?

High vitamin D levels are seen in hyperparathyroidism (overactive parathyroid glands), in large intakes of vitamin D (mainly via dietary supplements), sarcoid and other granulomatous diseases with increased calcium concentrations and in some cases in pregnancy. This can lead to hypercalcaemia and metastatic soft tissue calcification. The half-life of vitamin D is considered to be 2-3 weeks, while the normal half-life is considerably longer.

What is E-vitamin?

Vitamin E is a fat-soluble vitamin that occurs in several different forms, of which alpha-tocopherol is the most common form. The primary role of vitamin E in the body is to act as an antioxidant to protect the body's cells from free radicals that cause oxidative stress. Vitamin E also plays a role in the immune system and can prevent blood clots.

Why analyze E-vitamin?

Vitamin E plays an important role as an antioxidant in the body and also contributes to normal immune function.

What is Q10?

Coenzyme Q10 is a coenzyme and antioxidant that is produced naturally in the body and contributes to the cell's energy metabolism. The body's Q10 levels decrease with increasing age and people over 50 generally have lower Q10 levels.

Why analyze Q10?

Q10 plays an important role in cellular energy metabolism and high normal levels are associated with healthy aging.

