





Micronutrient Sensor

Maria Musterfrau

DEMO\_DS



**COVER LETTER** 

## Dear Ms. Musterfrau,

Your sample for the analysis arrived on in the laboratory and was evaluated according to the highest laboratory quality standards. The results were evaluated and released by two independent geneticists and molecular biologists. After obtaining the results, your personal report was compiled. We hereby convey the results to you in the format of your choice.

We would like to thank you for your trust and hope that you are satisfied with our service. We are always open to questions and suggestions. Please do not hesitate to contact us. We value your feedback. This is the only way we can continuously improve our services.

We hope the analysis meets your expectations.

Kind regards,

Dr. Daniel Wallerstorfer BSc.

**Laboratory Director** 

Florian Schneebauer, MSc. Laboratory Manager

## **Micronutrient Sensor**

Personal analysis results for:

Maria Musterfrau | Date of birth: 01/01/1990

Order number: **DEMO\_DS** 

This report contains personal medical information that is highly confidential. Data protection must be ensured.



DEMO\_DS Page 1 of 63



### What is the metabolism?

The metabolism is the sum of all the functions in the body. It controls all chemical and physical changes that take place in the organism to sustain growth and all other processes. Many vitamins, micronutrients, proteins, and other food ingredients that are ingested through food or supplements must first be converted. After that they can unfold their effect and provide the body with energy. A well-functioning metabolism ensures a healthy heart, beautiful skin, fast nerves and a healthy weight. On the other hand, a disturbed metabolism can lead to a variety of health problems.

Thus, a functioning metabolism is essential for many processes in the body and your overall well-being. Disruptions can become noticeable in many different ways:

- ➤ General discomfort
- > Diminished performance
- ➤ Weight problems
- > Fitness problems, such as: low muscle growth
- ➤ Poor recovery after workouts
- ➤ Low stamina, constant fatigue
- Back and joint pain
- Digestive problems
- > Problems with hair, nails or skin
- ➤ Mental problems, such as: anxiety, delusions, hallucinations

This test can help you identify these weaknesses in your metabolism. It measures whether your body is able to convert the absorbed substances properly and thus provide the body with the right form and amount. If this is not the case, this information will help you eliminate the weaknesses and provide your body with the right amount of nutrients. It may often be sufficient to adjust your diet or increase certain vitamins or nutrients.

Although watching over the metabolism is beneficial to anyone who wants to maintain a healthy body, there are specific individuals to whom such a test may be particularly important:

- > People with a stressful work routine
- > People looking for a weight reduction
- > People who regularly do sports

The examined substances can be divided into different groups:

### **MICRONUTRIENTS**

This group contains vitamins, minerals and trace elements. The proper supply and conversion of these micro-nutrients is essential to the metabolism within these cells and consequently the

DEMO\_DS Page 2 of 63



entire basic function of the body.

### **AMINO ACIDS**

They are the basic "building blocks" of the human body and play an important role in the growth and maintenance of muscles, hormone balance, and cell and bone structure. The body cannot produce the so-called "non-essential" amino acids by itself, wherefore they must be absorbed through the diet.

### **PROTEINS**

Proteins are the basic building blocks for muscle building and, among other things, strengthen the immune system. When consumed through food they fill you up and contribute to the physical and mental energy supply.

### OTHER METABOLISM COMPONENTS

This group contains other important energy sources, such as fatty acids and glucose, which the body requires to maintain all life-sustaining functions.

### **DETOXIFICATION**

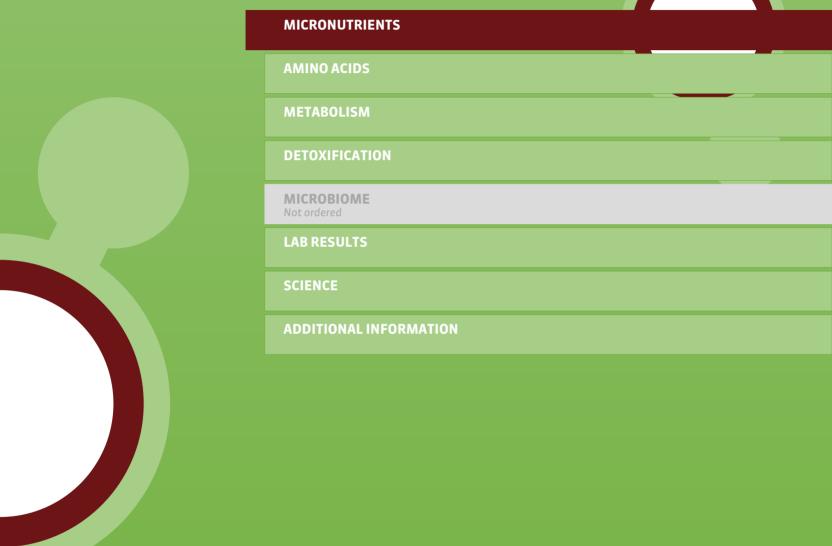
Food and other environmental influences don't just provide the body with health-promoting substances, but also substances that are harmful to the body. To protect the body, these toxic substances are converted and excreted, mostly by the liver, gall bladder and kidneys. This vital process is called detoxification.

### **MICROBIOME**

The gastrointestinal tract is a very complex system and home to a variety of different bacteria. The entirety of all microorganisms present in the intestine is called microbiome. The microbiome plays an important role in the utilization of food ingredient, contributes to the functioning of the immune system and controls the absorption of various substances via the intestinal mucosa.

DEMO\_DS Page 3 of 63







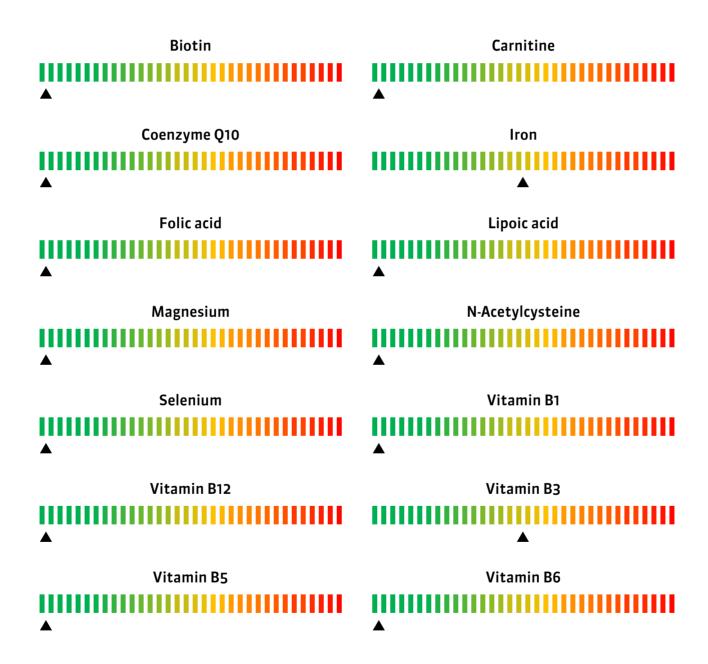
# Micronutrients

Analysis of your micronutrients



## Micronutrients overview

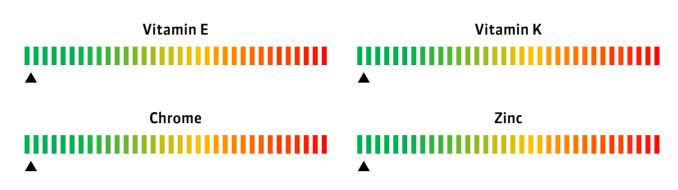
Here is an overview of all tested micro-nutrients:





DEMO\_DS Page 6 of 63







DEMO\_DS Page 7 of 63



## Micronutrient status

### **Biotin**

Biotin contributes to the health of the skin, hair and nails. It is also an important component of energy production in cells and promotes the growth of blood cells and nerve tissue.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Carnitine

Carnitine supports fat burning. It plays an important role for the heart, metabolism and skeletal muscles. After exercising, carnitine promotes muscle regeneration.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

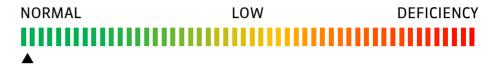
DEMO\_DS Page 8 of 63





### Coenzyme Q10

Coenzyme Q10 is an important antioxidant that can be produced by the body itself. However, it is also absorbed through the diet. Cells need coenzyme Q10 for energy production.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

ATTENTION! If Coenzyme Q10 is successfully activated to become an antioxidant in your body can not be determined by a blood analysis. To find out, you need to have your NQO1-gene tested.

### Iron

Iron is an important component of the blood and as hemoglobin, which means that it is responsible for transporting oxygen through the body. Iron can only be absorbed via the daily diet because it can not be produced in the body.



### **Need for action**

At the time of sample collection, you were lacking a moderate amount of this micronutrient. Increase iron intake.

ATTENTION! This test is able to detect iron deficiency only. If iron supplementation is or may become unhealthy for you in the future can not be determined by this blood test. A genetic test of the HFE gene can tell you more.

DEMO\_DS Page 9 of 63





### Folic acid

An optimized intake of folic acid leads to the strengthening of brain and nerve cells. Folic acid is an important nutrient for maintaining the function of nerve cells. Especially expectant mothers should monitor their folic acid levels, as a deficiency can lead to developmental problems of the embryo. With increasing age, a decline in folic acid can lead to a deterioration in cognitive performance.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Lipoic acid

ALA is a strong antioxidant that helps the body neutralize toxic free radicals that would otherwise cause chain reactions of damage to cells and tissues.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 10 of 63





### Magnesium

Magnesium is an essential component of more than 300 enzymes, and therefore particularly important for metabolism, muscle cell function and bone health.

NORMAL LOW DEFICIENCY

### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### **N-Acetylcysteine**

Acetylcysteine, like lipoic acid, is a powerful antioxidant and helps the body neutralize free radicals that are created by the metabolism and can trigger a chain reaction of destruction at the cells.

NORMAL LOW DEFICIENCY

### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 11 of 63





### Selenium

Selenium is an important component of many enzymes, some of which can neutralize free radicals. Certain genetic types need higher amounts of selenium to increase antioxidant protection.

NORMAL LOW DEFICIENCY

### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

ATTENTION! This test can detect normal dietary selenium deficiency. If your cells need more selenium than usual can only be determined by testing the GPX-1 gene.

### Vitamin B1

Vitamin B1 plays an important role for the nervous system. It serves to maintain and grow nerve and heart muscle tissue. A deficiency can lead to disturbances in the carbohydrate metabolism.

NORMAL LOW DEFICIENCY

### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 12 of 63





### Vitamin B12

An optimized intake of Vitamin B12 leads to the strengthening of brain and nerve cells. Vitamin B12 is an important nutrient for maintaining the function of nerve cells.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Vitamin B3

Vitamin B3 is necessary for numerous metabolic processes. An adequate intake of vitamin B3 contributes to a healthy energy metabolism and nervous system. It also acts against fatigue and exhaustion.



### **Need for action**

At the time of sample collection, you were lacking a moderate amount of this micronutrient. Increase vitamine B3 intake by 40 mg per day and support with B vitamins.

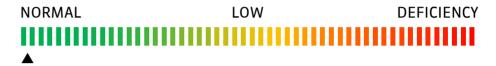
DEMO\_DS Page 13 of 63





### Vitamin B5

Vitamin B5 plays a major role in the entire energy metabolism. It also serves to increase the body's defense system.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Vitamin B6

Vitamin B6 is a key factor in metabolism. It is crucial for the construction and transformation of proteins. Furthermore, it is an important factor for the immune defense and development of the body.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

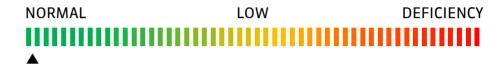
DEMO\_DS Page 14 of 63





### Vitamin E

Vitamin E acts as a radical catcher. During the metabolism, radicals are created and cause various diseases. Furthermore, vitamin E serves as a supporting agent against vascular diseases, diabetes, inflammation and nerve diseases.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

ATTENTION! This blood test can only detect if you have a dietary deficiency. To find out if your body needs higher amounts of this nutrient, you need to have genes related to oxidative stress tested.

### Vitamin K

Vitamin K is needed for the production of proteins of blood clotting. Without vitamin K, these can not be produced. In addition, it contributes to the strength of the bones.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 15 of 63





### Chrome

Chrome finds use in many areas. It has a positive effect on the metabolism and regulates blood sugar. Chrome is needed for energy because it transports sugar into the body's cells.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Zinc

Zinc is needed by the body for optimal macronutrient metabolism, proper protein construction, healthy bone maintenance and to create new DNA. It is an essential micronutrient for many proteins and enzymes.



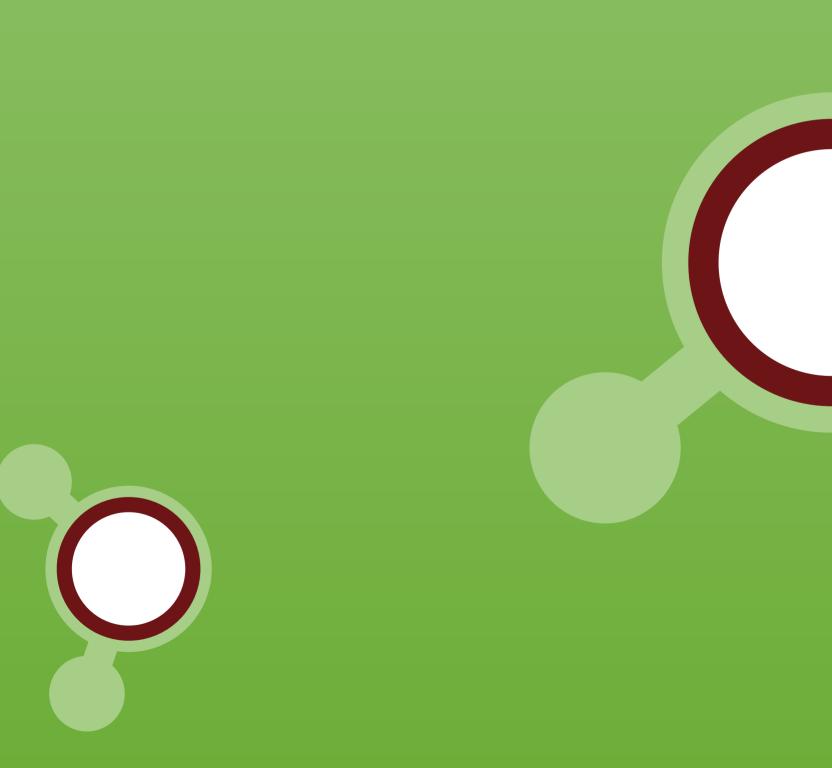
### **Need for action**

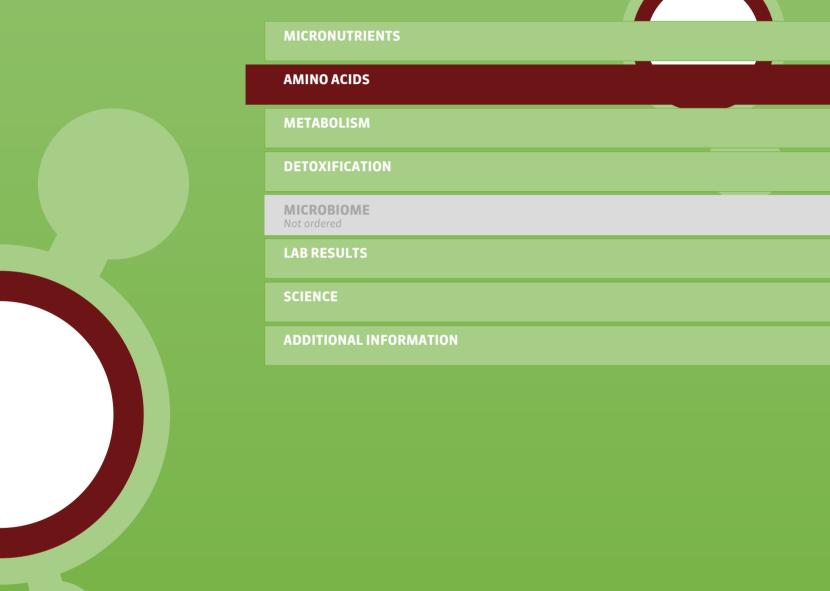
At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

ATTENTION! This blood test can only detect if you have a dietary deficiency. To find out if your body needs higher amounts of this nutrient, you need to have genes related to oxidative stress tested.

DEMO\_DS Page 16 of 63









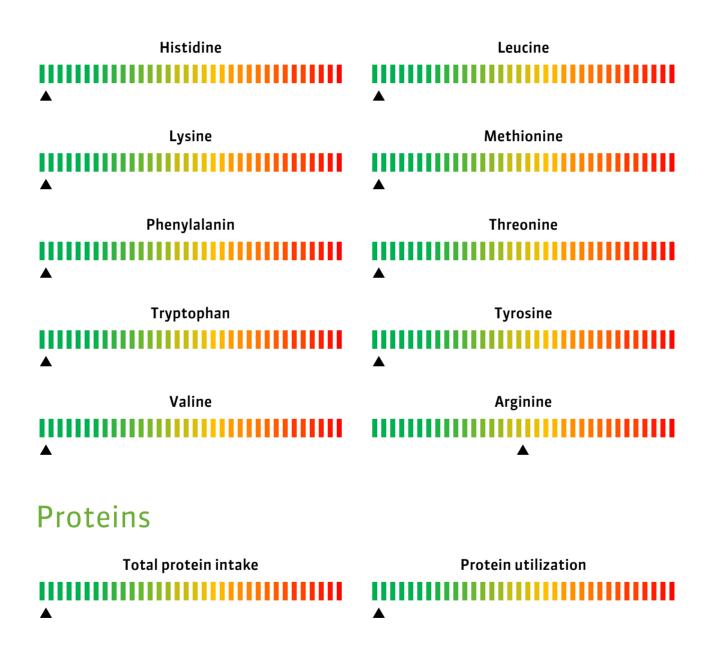
# **Amino acids**

Analysis of your amino acid balance



## Amino acid overview

Here is an overview of all tested amino acids:



ProGenom



## Amino acid balance

### Histidine

Histidine is a semi-essential amino acid. This means that the body can only produce very small amounts of histidine, the portion must be absorbed through one's diet. Histidine is needed for many different functions such as: Wound healing, immune system and recovery phase.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Leucine

Leucine is an essential amino acid, which means: Leucine can only be absorbed through food or supplements. The main role of leucine is muscle building and muscle breakdown. Furthermore, leucine protects the liver and promotes fat burning.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 21 of 63





### Lysine

Lysine is an essential amino acid, meaning that it can not be produced by the body. Lysine promotes the immune system and contributes to the buildup of collagen. Furthermore, lysine increases calcium uptake from the gut and depositing in the bones.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### Methionine

Methionine is an essential amino acid and can only be obtained by ingesting food. The main task of methionine is protein synthesis. The sulfur found in methionine is required to build up tissue in the body.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

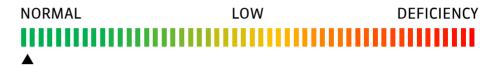
DEMO\_DS Page 22 of 63





### Phenylalanin

Phenylalanine is an essential amino acid and can not be produced by the body itself. It stimulates and provides energy to the brain.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### **Threonine**

Threonine is used for energy production. When exercising, the body requires larger amounts of threonine. It is also important for a healthy immune system and healthy mucous membranes.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 23 of 63





### **Tryptophan**

Tryptophan is an essential amino acid and must be wholly absorbed into the body by ingestion. Tryptophan has a mood-enhancing, calming and soothing effect.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

### **Tyrosine**

Tyrosine is a non-essential amino acid and can be self-produced by the body in sufficient quantities. Stress results in an increased need (stress, mental stress, physical work). Another important task is the production of the thyroid hormone.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

DEMO\_DS Page 24 of 63





### Valine

Valine can not be produced by the body and is therefore one of the essential amino acids. The main task is to build and strengthen the nerves and muscles. Valine also promotes energy production during high physical stress.



### **Need for action**

At the time of sample collection, you were adequately supplied with this micronutrient. No actions are necessary at this time.

## **Arginine**

Arginine is a semi-essential amino acid. That means, the body only needs arginine during certain periods of time like during growth or after a severe injury. The intake of arginine results in enlarged blood vessels which helps against plaque. Arginin also has an influence on our hormone and immune systeme.



### **Need for action**

At the time of sample collection, you were lacking a moderate amount of this micronutrient. We advise taking a protein diet rich in essential amino acids.

DEMO\_DS Page 25 of 63





## **Proteins**

## Total protein intake

Proper protein intake is important because the provided amino acids allow the body to produce its own proteins. Also, sufficient protein intake affects the muscle structure.



### **Need for action**

According to these results your overall protein intake is sufficient.

# Protein utilization

Protein utilization describes the ratio of production and degradation of proteins. This ratio is usually balanced. Most of the protein utilization serves the renewal of the cells of the intestinal mucosa and the muscle metabolism.

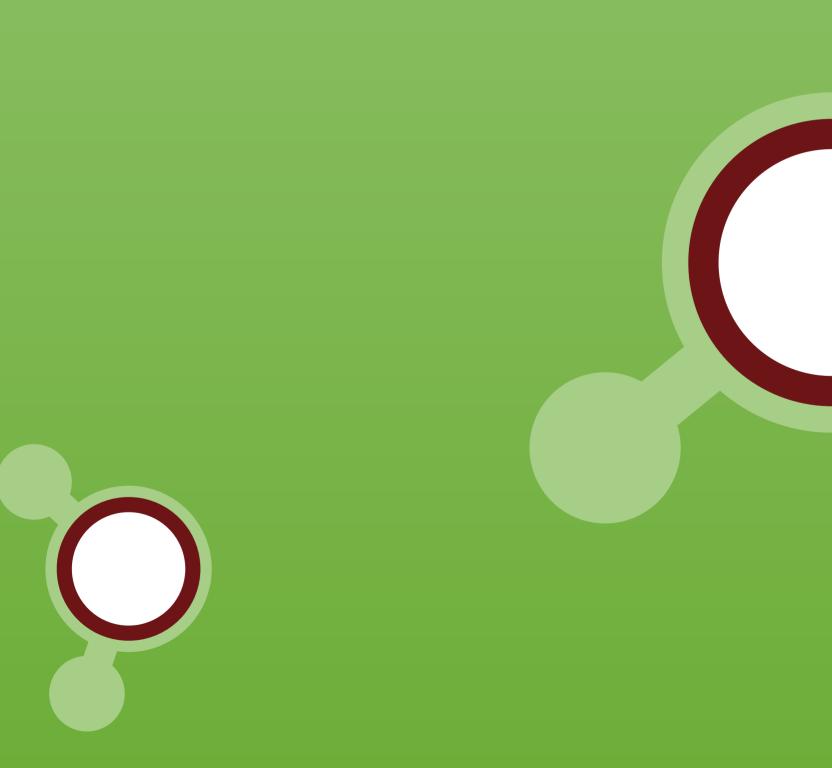


### **Need for action**

Your protein turnover is sufficient and you are not breaking down protein (specifically muscle mass) more than would be normal.

DEMO\_DS Page 26 of 63









**METABOLISM** 

**DETOXIFICATION** 

MICROBIOME Not ordered

LAB RESULTS

SCIENCE

**ADDITIONAL INFORMATION** 



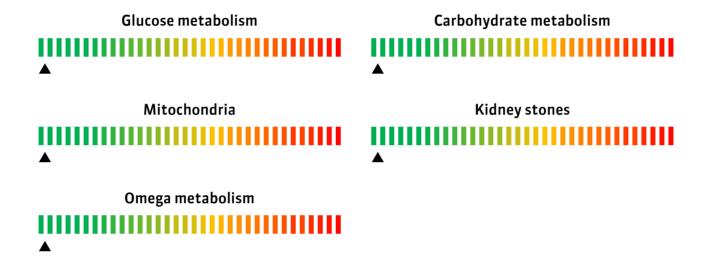
# Metabolism

Analysis and prevention of metabolic problems



## Metabolism Overview

Here is an overview of all tested metabolic functions:



ProGenom

DEMO\_DS Page 30 of 63



## Metabolism test

### Omega metabolism

The omega metabolism is a variant of fatty acid degradation. It is only a smaller part of fatty acid degradation, but may become important in case of a limited main degradation.



### **Need for action**

Your Omega metabolism is functioning normally. No actions must be taken.

### Glucose metabolism

Glucose is the most important carbohydrate in the body. A low level of glucose metabolism is typically seen when eating a low carbohydrate and low calorie diet.



### **Need for action**

Your glucose metabolism is functioning normally. No actions must be taken.

DEMO\_DS Page 31 of 63





## Carbohydrate metabolism

Carbohydrates are an important source of energy. Carbohydrate metabolism includes all processes of carbohydrate extraction, transporting and breakdown.



### **Need for action**

Your carbohydrate metabolism is working normally. No action is required.

### Mitochondria

Mitochondria are the power plants of every cell. Malfunction of the mitochondria leads to a failure of the cellular energy production.



### **Need for action**

Your mitochondria work sufficiently. No action is required.

DEMO\_DS Page 32 of 63





### **Kidney stones**

Kidney stones are small crystalline deposits that form in the kidney canal, renal pelvis, or urinary tract. In most cases, they are caused by insufficient fluid intake.

NORMAL ELEVATED

**A** 

### **Need for action**

You do not have an increased risk of forming kedney stones. No action is required.



DEMO\_DS Page 33 of 63



**AMINO ACIDS** 

**METABOLISM** 

**DETOXIFICATION** 

MICROBIOME Not ordered

LAB RESULTS

SCIENCE

**ADDITIONAL INFORMATION** 



## Detoxification

Status regarding your detoxification profile



#### **DETOXIFICATION**

## **Detoxification profile**

#### **Ammonia**

Ammonia is formed during the degradation of amino acids. It is converted into urea in the liver and can then be excreted via the kidney. Ammonia is a very strong neurotoxin and can even result in death if detoxification disorders exist.



#### **Need for action**

Your ammonia detoxification works adequately. No action is necessary.

#### **Heavy metals**

Heavy metals like lead, cadmium, nickel or mercury can be deposited in the body. Our body is coming into contact with these poisonous metals more and more often. They can damage the liver, kidneys, intestines and weaken the immune system.



#### **Need for action**

Your heavy metal detoxification works adequately. No action is necessary.

DEMO\_DS Page 36 of 63



#### Free radicals

Free radicals are created in cells during energy conversion. Free radicals are small, aggressive substances that damage the molecules around them through a chain reaction. They must be neutralized swiftly by the body. An imbalance between the formation and neutralization of free radicals is known as oxidative stress, which is one of the factors that affects the aging of your body and skin.

NORMAL LIMITED DEFICIENCY

#### **Need for action**

This one way of neutralizing free radicals (GST-dependent) is working adequately.

ATTENTION! There are other free radical neutralization pathways that are not measured by this test. A genetic test of SOD2 and GPX-1 would give more insights.

#### Liver

The liver is a key component in detoxification. It ensures that toxic substances are rendered harmless and can be safely eliminated. All substances that are absorbed through the gastrointestinal tract are inactivated by the liver.

NORMAL LIMITED DEFICIENCY

#### **Need for action**

Your liver detoxification is functioning normally. No actions must be taken.

DEMO\_DS Page 37 of 63





MICRONUTRIENTS

**AMINO ACIDS** 

**METABOLISM** 

**DETOXIFICATION** 

MICROBIOME Not ordered

**LAB RESULTS** 

SCIENCE

**ADDITIONAL INFORMATION** 



### LABORATORY



## Lab findings - Blood

Marker	Measured value (nmol/ml)
1-Methyl-histidin	13.53
Arginine	44.05
Beta-Alanine	3.5828
Beta-aminoisobutyric acid	1.279
Carnosine	0.91
CO	41.8913
Cysteine	233.06
Glutamine	650.02
Glycine	271.8885
Histidine	54.4268
Leucine	153.42
Lysine	244.23
Methionine	36.48
Phenylalanin	83.2891
Proline	265.44
Sarcosine	1.52
Serine	87.981
Taurine	78.35
Threonine	191.77
Tryptophan	45.05
Tyrosine	40.44
Valine	495.06

DEMO\_DS Page 39 of 63





## Lab findings - Urine

Marker	measured value (mmol/ml)
2HIC	0.03
2HPA	0.01
2-Hydroxy-hippurate	0.19
2-Keto-glutarate	0.05
3HB	0.01
3НР3НР	0.75
3HIV	0.05
4HBA	0.02
4HPA	2.18
4HPL	0.05
4-Hydroxy-hippurate	0.55
5HM2F	0.12
Adipate	0.59
Analog Citrate	3.45
b-Alanine	5.07
Benzonatate	2.51
Cisaconat	0.16
Citrate	6.62
EMA	0.01
Formiminoglutamate	117.04
Glucose	0.08
Glutarate	0.01
Gly1	12.68
Hippurate	23.3
His	4.45
HMG2	3.42
Indole3AA	0.03
IsoLeucin	2.52
Lactate	82.8

DEMO\_DS Page 40 of 63

Leu	1.27
Lys1	2.28
Malate	1.67
Mandelate	3.17
Methyl-succinate	0.01
MMA	0.01
Orotate	0.02
Oxalate	0.02
Phe1	7.08
Pyro-glutamate	1.35
Pyruvate	0.02
Sebacate	0.02
Ser1	2.55
Suberate	2.07
Succinate	1.22
Tartarate	0.01
Thr	2.56
Uracil	0.05
Xanthurenic acid	139.74





**MICRONUTRIENTS** 

**AMINO ACIDS** 

**METABOLISM** 

**DETOXIFICATION** 

MICROBIOME Not ordered

LAB RESULTS

**SCIENCE** 

**ADDITIONAL INFORMATION** 



## **SCIENCE**

This chapter shows the science behind the test.



#### **MICRONUTRIENTS**

### References

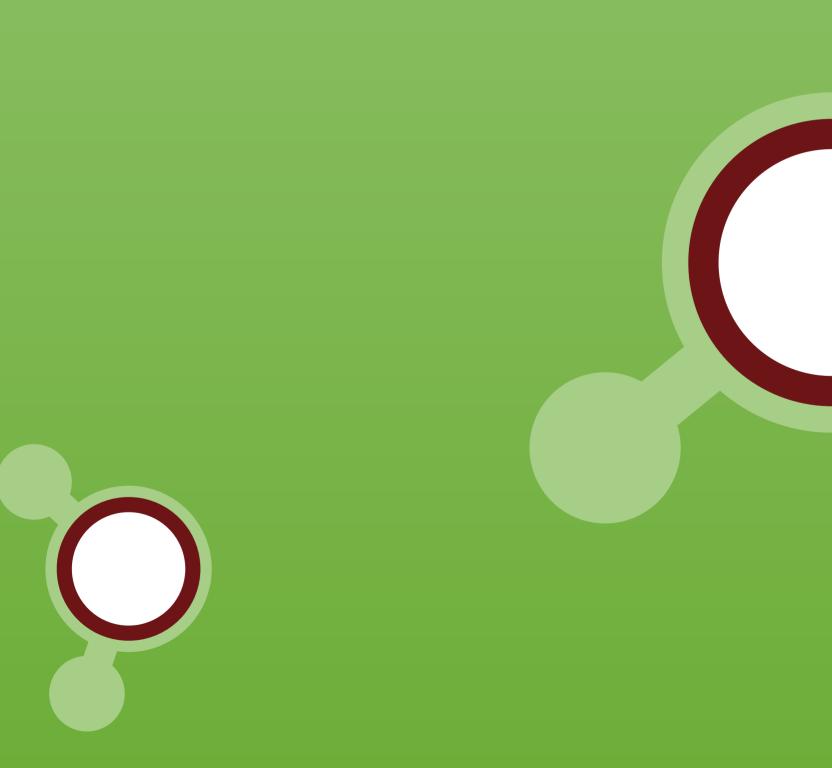
### All our results and processes are based on current scientific information and comply with all legal requirements.

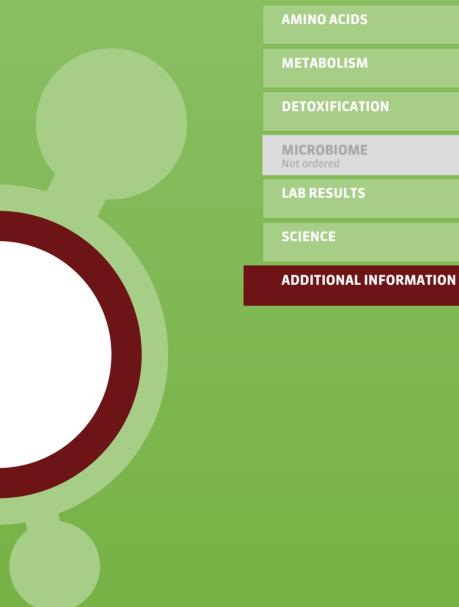
- Wang TJ, Ngo D, Psychogios N, Dejam A, Larson MG, Vasan RS et al. 2-Aminoadipic acid is a biomarker for diabetes risk. J Clin Invest.
- 2013;123(10):4309-17.
- Padberg I, Peter E, Gonzalez-Maldonado S, Will H, Mueller M, Weis T et al. A new metabolomic signature in type-2 diabetes mellitus
- and its pathophysiology. PLoS One. 2014;9(1):e85082.
- Reinehr T, Wolters B, Knop C, Lass N, Hellmuth C, Harder U et al. Changes in the serum metabolite profile in obese children with weight
- loss. Eur | Nutr. 2015;54(2):173-81.
- Valcarcel B, Ebbels TM, Kangas AJ, Soininen P, Elliot P, Ala-Korpela M et al. Genome metabolome integrated network analysis to uncover
- connections between geneunc variants and complex traits: an application to obesity. | R Soc Interface. 2014 Feb 26;11(94):20130908.
- Cupis Da, Meola M, D'Alessandro C, Bernabini G, Pasquali E, Carpi A, Barso Da G. Insulin resistance and low urinary citrate excredion in
- calcium stone formers. Biomed Pharmacother. 2007 Jan;61(1):86-90.
- Wang TJ, Larson MG, Vasan RS et al. Metabolite profiles and the risk of developing diabetes. Nature Medicine 2011; 17(4):448–453.
- Newgard CB, An J, Bain JR, Muehlbauer MJ, Stevens RD, Lien LF et al. A branched-chain amino acid-related metabolic signature that differentiates obese and lean humans and contributes to insulin resistance. Cell Metab. 2009;9(4):311-26.
- Xie B, Waters MJ, Schirra HJ. Investigating potential mechanisms of obesity by metabolomics. J Biomed Biotechnol. 2012;2012:805683.
- Du F, Virtue A, Wang H, Yang XF. Metabolomic analyses for atherosclerosis, diabetes, and obesity. Biomark Res. 2013 Apr 1;1(1):17. Lucio M, Fekete A, Weigert C, Wägele B, Zhao X, Chen J et al. Insulin sensitivity is reflected by characteristic metabolic fingerprints—a Fourier transform mass spectrometric non-targeted metabolomics approach. PLoS One. 2010;5(10):e13317.
- Adams SH. Emerging perspectives on essential amino acid metabolism in obesity and the insulin-resistant state. Adv Nutr. 2011
- Nov;2(6):445-56.
- Du F, Virtue A, Wang H, Yang XF. Metabolomic analyses for atherosclerosis, diabetes, and obesity. Biomark Res. 2013 Apr 1;1(1):17.

  Mihalik SJ, Michaliszyn SF, de las Heras J, Bacha F, Lee S, Chace DH et al. Metabolomic profiling of fatty acid and amino acid metabolism
- in youth with obesity and type 2 diabetes: evidence for enhanced mitochondrial oxidation. Diabetes Care. 2012;35(3):605-11.
- Lustgarten MS, Price LL, Phillips EM, Fielding RA. Serum glycine is associated with regional body fat and insulin resistance in
- functionally-limited older adults. PLoS One. 2013;8(12):e84034

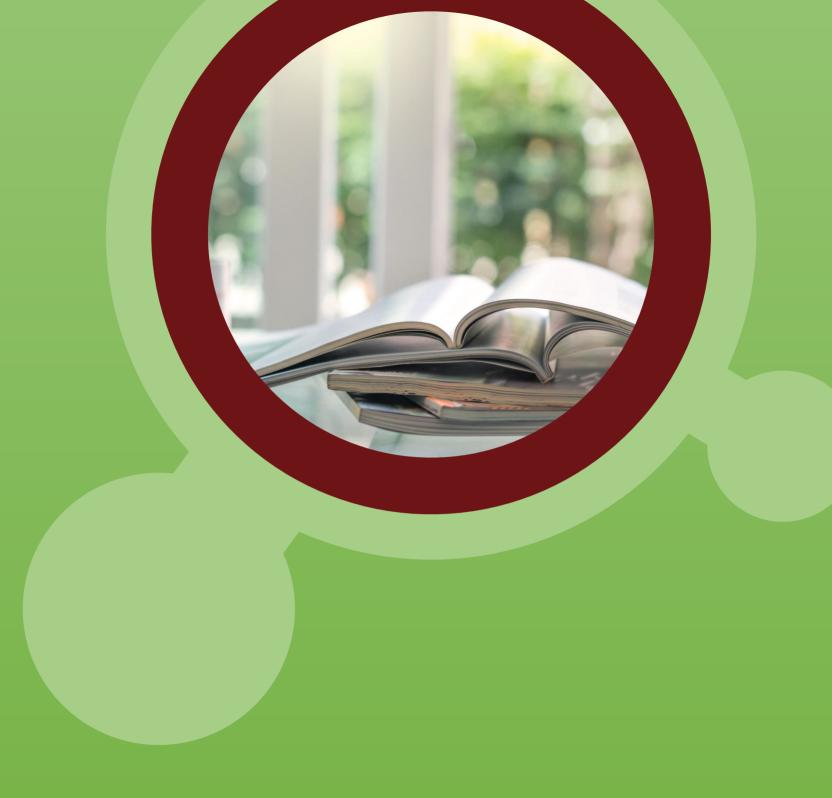


DEMO\_DS = Page 44 of 63





**MICRONUTRIENTS** 



## **ADDITIONAL INFORMATION**

In this chapter you will receive useful information

## NutriMe Complete How it works

Every person is unique and when testing more than 50 different genes, there are more than several hundred trillion potentially different outcomes, of which only one applies to you. Each unique genetic profile has different strengths and weaknesses and requires different substances and micronutrients for optimal health.

NutriMe Complete - This is a genetically customized micronutrient mixture with the aim of using your innate strengths and compensating for your inherited genetic weaknesses. Take your personalized micronutrient mixture to supply your body with the nutrients it needs.

#### Micro-transporters – optimized nutrient uptake

During processing the vitamins and minerals are packed into small beads called micro-transporters. This allows for easy mixing of different quantities of individual micro-transporters and their micronutrients. For some people, the final mixture contains a higher proportion of vitamin C-containing micro-transporters, for others a higher proportion of calcium-containing micro-transporters. Thus, any recipe can be created quickly and accurately through a targeted micronutrient blend. In addition, the micronutrients are better protected against oxygen by their packaging in the hard micro-transporters, and remain they stable much longer compared to dissolved micronutrients.



# NutriMe Complete The genetic micronutrient mixture your body needs!

Simply take your personalized micronutrient mixture every morning to supply your body with the right nutrients at the correct quantities for your unique genetic profile.



**Order now!** 

... through your advisor

...online at:

www.ProGenom.com

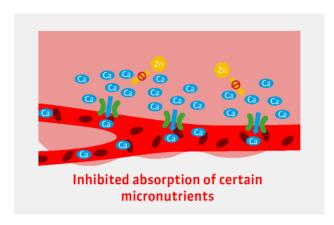
Your recipe code:

**DEMO\_DS** 

### Optimized absorption into the blood stream

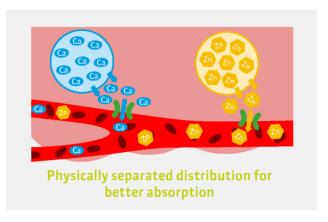
Proper absorption of micronutrients is a complex issue since many of the substances can inhibit each other's absorption. Therefore, the exact location and rate of micronutrient release in the intestine is important.

## Standard micronutrients: Mutual uptake inhibition



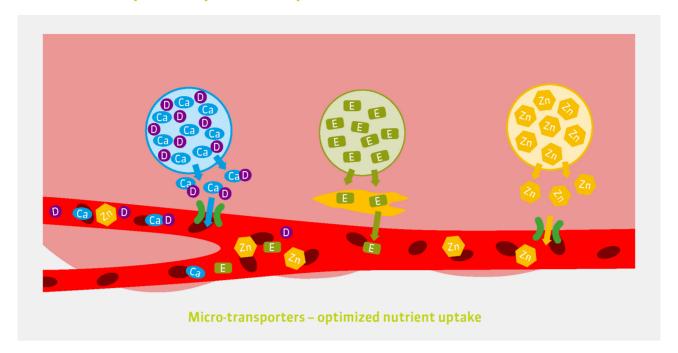
Certain micronutrients are absorbed through the same processes/channels in the body. A good example of this is calcium and zinc. If a calcium/zinc powder mixture is taken using a gelatin capsule, both components will be released in the intestine. The intestinal mucosa then starts to absorb calcium, which is typically administered at a significantly higher dose. Calcium uses certain uptake channels, which are limited in number. Zinc, which should also be absorbed via these channels, is blocked by the greater quantity of calcium, and in most instances it will remain in the intestine unabsorbed until it is excreted. For this reason, certain micronutrients should not be administered together in the same dosage form. Thus, it's important to be mindful of micronutrients in the form of effervescent tablets or gelatin capsules that contain, for example, mixtures of calcium and zinc.

## NutriMe Complete - Optimized absorption properties



The micro-transporters are designed so that mutually inhibiting substances are not contained within the same pellets. This means that calcium is released in one location of the intestine and zinc is released in another location. In this way, each of these micronutrients is released a distance from one another, and uptake inhibition is reduced to a minimum. The slow release of micronutrients means that the uptake channels are not heavily used because the nutrients are only released at a slow and steady rate.

### NutriMe Complete - Optimized uptake of all nutrients



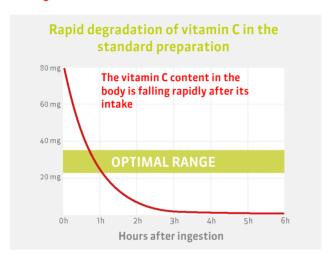
We also know that certain micronutrients can increase each other's absorption, therefore they are released together from the same micro-transporter so that absorption of the micronutrients is maximized, e.g. vitamin D and calcium.

Certain fat-soluble vitamins such as vitamin E need fat carriers in order to be absorbed into the body. For this reason, we recommend taking vitamin E preparations with a fat-containing meal so that the vitamin E can dissolve in the dietary fat and be absorbed into the body. The microtransporters will store the vitamin E for hours until they come into contact with fat and then be absorbed.

## NutriMe Complete - Proper care throughout the day

The wrong dosage can quickly result in the body receiving insufficient micronutrients. Therefore, the micronutrient supplements must release the correct micronutrients into the body at the correct time.

### Standard vitamins: To quickly be metabolized by the body



Most micronutrient preparations rapidly dissolve in water and are almost immediately released in the intestine, absorbed by the bloodstream and transported around the body. This has some important disadvantages: vitamin C is rapidly removed from the body because it has a half-life of 30 minutes - the body eliminates half of the total vitamin C from the blood every half hour. Therefore, after a typical daily dose of 80mg vitamin C, only about 5mg is left after 2 hours. After 4 hours, there is less than 1mg, and this means that the vitamin C concentration is below its effective level.

## NutriMe Complete - Permanent supply



Since the body breaks down vitamin C very fast, it is necessary to supply the body with small amounts of vitamin C continuously. The micro-transporters are designed so that they release the vitamins and minerals slowly, throughout the day. This way, the body is constantly supplied with the optimal dose of vitamin C throughout the day.

## NutriMe Complete - A lifelong product according to latest scientific knowledge

Science always comes up with new findings in the field of genetics, disease prevention and micronutrients. Since your personalized micronutrient mixture is pertinent for a lifetime, we have the capability to customize each new mixture individually to new circumstances, such as: your new age, new scientific findings and new recommendations for a healthy diet. Therefore, the individual micronutrient levels are adjusted from one order to the next and can be individually adapted to your new circumstances. Your personalized micronutrient mixture is formulated according to your genes and always adapted to the cutting edge of science and technology.

## A product based on various analyses

Various analyses from our portfolio can influence the formulation of your personalized product. Thus, it does not matter whether you have the analysis for healthy eating, the analysis for optimum athletic performance or the analysis for optimal micronutrients for breast milk. All available results can be automatically integrated at no extra cost.

## NutriMe Complete - The highest quality of raw materials

Your personalized supplement consists of a variety of different raw materials, which are selected and processed according to the highest quality standards. Special attention is paid to bioavailability (how well and quickly the micronutrient can be absorbed by the body), compatibility and purity.

#### **Biological or pharmaceutical sources?**

Vitamins and minerals can be obtained from various sources. On one hand, there are the pharmaceutical preparations containing vitamins, minerals, and salts produced in chemical reactions and then purified. On the other hand, there are the natural, biological resources. Plants, which contain a high concentration of these micronutrients are harvested and then concentrated. The resulting extract is then highly enriched with the desired vitamin. Pharmaceutically manufactured, as well as natural vitamins, have their advantages and disadvantages. Pharmaceutically manufactured vitamins are usually in higher doses and have a longer expiration period. The higher dosage can be concentrated in smaller quantities, thereby reducing the required tablet size. They are also produced as pure vitamins, allowing for very simple and accurate dosing. As a drawback, they often have a lower bioavailability.

Biological micronutrients have the advantage of better bioavailability, i.e. they are absorbed in the body much faster and better. They are usually better tolerated and represent a natural alternative due to their biological origin. As a disadvantage, even highly concentrated extracts still contain only small amounts of a particular vitamin. For this reason, a larger volume is needed to supply the body with a certain quantity of a vitamin. The tablet size is thus significantly bigger, particularly when it comes to supplying a multitude of different vitamins and minerals in one tablet.

Your personalized micronutrient mixture takes advantage of both sources and combines them into a single product. A large proportion (about 80%) of the micronutrients that are used are from biological sources. This imparts a better bioavailability and an improved tolerability of the product. The disadvantage is that a larger volume of micro-transporters must be taken as a daily dose. However, for better long-term stability, lower volume and more accurate dosing, some pharmaceutically manufactured vitamins and minerals are also used (about 20% of the total mixture). In this way, your personalized product offers the best of both micronutrient sources.

### Sea magnesium, the bioavailable alternative

The magnesium used in your mixture is made from pure seawater and not chemically produced magnesium salts. Thus, it has better bioavailability and is free of contaminants.



## Effect of your individual micronutrient mixture

Your micronutrient mixture consists of a large number of important vitamins, minerals and trace elements, which control various functions in the body. Based on your genetic analysis, we evaluate some of these substances as more important or less important to your health, and adjust the dosage of the product accordingly.

Here you can see a complete list of the effects you can expect from your mix according to current scientific information:

#### Alpha-lipoic acid

- protection of body lipids from oxidative damage
- maintenance of normal blood cholesterol concentrations
- increased beta-oxidation of fatty acids
- maintenance of normal blood glucose concentrations
- regeneration of genes, regeneration of gene transcription and the influence to activity NF kappa B

#### Coenzyme Q10

- contribution to normal energy-yielding metabolism
- maintenance of normal blood pressure
- protection of DNA, proteins and lipids from oxidative damage
- contribution to normal cognitive function
- maintenance of normal blood cholesterol concentrations
- and increase in endurance capacity and/or endurance

- Contributes to normal cognitive function
- Contributes to normal energy metabolism
- Contributes to normal formation of red blood cells
- Contributes to normal oxygen transport in the body
- Contributes to normal function of the immune system
- Helps reduce fatigue and weakness
- Fulfills a function in cell division

- Contributes to normal tissue growth during pregnancy
- Contributes to normal amino acid synthesis
- Contributes to normal blood formation
- Contributes to normal homocysteine metabolism
- Contributes to normal mental function
- Contributes to normal function of the immune system
- Helps reduce fatigue and weakness
- Fulfills a function in cell division

#### **Calcium**

- Contributes to normal energy metabolism
- Contributes to normal muscle function
- Contributes to normal signal transmission between nerve cells
- Contributes to normal function of digestive enzymes
- Contributes to normal blood clotting
- Fulfills a function in cell division and specialization
- Required for maintaining normal bones
- Required for maintaining normal teeth

#### Copper

- Contributes to maintaining normal connective tissue
- Contributes to normal energy metabolism
- Contributes to normal function of the nervous system
- Contributes to normal hair pigmentation
- Contributes to normal iron transport in the body
- Contributes to normal skin pigmentation
- Contributes to normal function of the immune system
- Contributes to protecting the cells from oxidative stress

- protection of DNA, proteins and lipids from oxidative damage
- protection of the skin from UV-induced (including photo
- maintenance of normal vision

- Helps reduce fatigue and weakness
- Fulfills a function in cell division
- Contributes to electrolyte equilibrium
- Contributes to maintaining normal teeth
- Contributes to normal energy metabolism Contributes to maintaining normal bones

- Contributes to normal function of the nervous system
- Contributes to normal muscle function
- Contributes to normal protein synthesis
- Contributes to normal mental function

#### Manganese

- Contributes to normal energy metabolism
- Contributes to maintaining normal bones
- Contributes to normal connective tissue formation
- Contributes to protecting the cells from oxidative stress

#### Methyl-Sulfonyl-Methane

- contribution to normal collagen formation
- maintenance of normal hair
- maintenance of normal nails
- maintenance of normal acid-base balance
- "strengthens the immune system function"
- maintenance of normal bowel function
- contribution to the normal cysteine synthesis

#### **Phytosterol**

Contributes to maintaining a normal cholesterol level in the

#### Selenium

- Contributes to normal sperm formation
- Contributes to maintaining normal hair
- Contributes to maintaining normal nails
- Contributes to normal function of the immune system
- Contributes to normal DNA synthesis
- Contributes to protecting the cells from oxidative stress

#### Vitamin A

- Contributes to normal iron metabolism
- Contributes to maintaining normal mucosa
- Contributes to maintaining normal skin
- Contributes to maintaining normal vision
- Contributes to normal function of the immune system
- Fulfills a function in cell specialization

- Contributes to normal energy metabolism
- Contributes to normal function of the nervous system
- Contributes to normal homocysteine metabolism
- Contributes to normal mental function
- Contributes to normal formation of red blood cells Contributes to normal function of the immune system
- Helps reduce fatigue and weakness
- Fulfills a function in cell division

#### Vitamin B2

- > Contributes to normal energy metabolism
- Helps reduce fatigue and weakness
- Contributes to normal function of the nervous system
- Contributes to maintenance of normal mucous membranes
- Contributes to maintaining normal red blood cells
- Contributes to maintaining normal skin
- Contributes to maintaining normal vision
- Contributes to normal iron metabolism
- Contributes to protecting the cells from oxidative stress

#### Vitamin B6

- Contributes to normal cysteine synthesis
- Contributes to regulation of hormone activity
- Contributes to normal energy metabolism
- Helps reduce fatigue and weakness
- Contributes to normal function of the nervous system
- > Contributes to normal homocysteine metabolism
- Contributes to normal protein and glycogen metabolism
- Contributes to normal mental function
- > Contributes to normal formation of red blood cells
- Contributes to normal function of the immune system

#### Vitamin C

- Contributes to normal collagen formation for normal blood vessel function
- > Vitamin C increases the iron intake
- Contributes to normal collagen formation for normal bone function
- Contributes to the regeneration of the reduced form of vitamin F
- Contributes to normal collagen formation for normal cartilage function
- Helps reduce fatigue and weakness
- Contributes to normal function of the immune system during and after intensive physical activity
- Contributes to protecting the cells from oxidative stress
- Contributes to normal collagen formation for normal gum function
- > Contributes to normal function of the immune system
- Contributes to normal collagen formation for normal skin function
- Contributes to normal mental function
- Contributes to normal collagen formation for normal teeth function
- Contributes to normal function of the nervous system
- Contributes to normal energy metabolism

#### Vitamin D3

- Contributes to normal uptake/utilization of calcium and phosphorus
- Contributes to normal calcium levels in the blood
- Contributes to maintaining normal bones
- Contributes to maintaining normal muscle function
- > Contributes to maintaining normal teeth
- Contributes to normal function of the immune system
- > Fulfills a function in cell division

#### Vitamin E D-Alpha-Tocopherol

Contributes to protecting the cells from oxidative stress

#### Zinc

- Contributes to normal acid-base metabolism
- > Fulfills a function in cell division
- > Contributes to normal carbohydrate metabolism
- Contributes to protecting the cells from oxidative stress
- Contributes to normal cognitive function
- Contributes to normal function of the immune system
- Contributes to normal DNA synthesis
- Contributes to maintaining normal vision
- Contributes to normal fertility and normal reproduction
- Contributes to a normal metabolism of macronutrients
- Contributes to maintaining normal skin
- Contributes to maintaining a normal testosterone level in the blood
- > Contributes to a normal fatty acid metabolism
- Contributes to maintaining normal nails
- > Contributes to a normal Vitamin A metabolism
- Contributes to maintaining normal hair
- Contributes to normal protein synthesis
- > Contributes to maintaining normal bones

Info: In the European Union, micronutrient effect statements are strictly regulated and must be specifically approved. This list includes the permissible effect promises of this product. Other effects from studies have not yet been sufficiently scientifically confirmed by the EU and are expressly NOT indicated as an effect of this product. The effects of this product are limited to this list only. No other aspects of this booklet flow into the effects of the product, and it is in no way suggested that certain genetic analysis results cause additional healing effects that reach beyond this list.

## Your daily requirement of micronutrients

Micronutrient	RDA	Your requirement	Unit
Alpha lipoic acid	N/A	61	mg
Calcium	800	485	mg
Coenzyme Q10	N/A	19.5	mg
Copper	1	0.39	mg
Folic Acid	200	208	μg
Iron	14	12.5	mg
Lutein	N/A	3.4	mg
Magnesium	375	316	mg
Manganese	2	3.1	mg
Methyl-Sulfonyl-Methane	N/A	269	mg
Omega-3	N/A	700	mg
Phytosterol	N/A	231	mg
Selenium	55	99	μg
Vitamin A	800	1376	μg
Vitamin B12	2.5	6.3	μg
Vitamin B2	1.4	0.8	mg
Vitamin B6	1.4	2.2	mg
Vitamin C	80	143	mg
Vitamin D3	5	16	μg
Vitamin E (a-Tocopherol)	12	22	mg
Zinc	10	8.8	mg

The RDA values are generally defined standard values for vitamins, minerals and trace elements. However, your actual need will be determined by your genetics and lifestyle.

CAUTION! Your genetic analysis shows that both over- and under-dosing of some of these substances may be harmful to your health. Therefore, please dose the micronutrients exactly according to these values to supply your body with precise amounts of these vitamins and minerals, and to prevent harmful effects of an overdose.



#### **Order now:**

... through your advisor

...online at:

www.ProGenom.com

Your recipe code:

DEMO\_DS



**MICRONUTRIENTS** 

## Influences on the micronutrient mixture

Your individual micronutrient mixture will be prepared based on various analyses and data. Here are aspects that affect your personal mix:

**MICRONUTRIENTS** 





LIFESTYLE QUESTIONS



DEMO\_DS Page 59 of 63

## Follow us on facebook!

Follow us on Facebook to always stay up to date with news from the world of genetics.





https://www.facebook.com/ProGenom



#### **CERTIFICATIONS**

### Certifications

Our laboratory is one of the most modern and automated laboratories in Europe and has numerous certifications and quality assurance systems that meet, and even exceed, international standards. The various areas of business are certified separately to the highest standards.

## Laboratory diagnostics, manufacturing & sales

Quality management system in accordance with ISO 9001:2015

## qualityaustria SYSTEM CERTIFIED ISO 9001:2015 No.14365/0

#### Licensed for medical genetics

Approved by the Federal Ministry of Health, Austria



## Cosmetic/genetic diagnostics and cosmetics manufacturing

Good manufacturing practice (GMP) in accordance with ISO 22716:2007



#### Food supplement manufacturing

Management system for food safety in accordance with ISO 22000:2018





DEMO\_DS Page 61 of 63



**CUSTOMER SERVICE** 

## **Customer Service**

#### Questions or comments about our service?

Our customer service team is happy to help with any enquiries or problems. You can contact us in the following ways:

- ➤ Phone +41 (0) 41 525 100.1
- ➤ office.ch@progenom.com

Our team is looking forward to your call. Customer satisfaction is our first priority. If you are not fully satisfied with our service, please let us know. We will do our best to help find a satisfactory solution to your problem.

Contact | Impressum ProGenom GmbH Riedstrasse 1 6343 Rotkreuz SWITZERLAND

DEMO\_DS Page 62 of 63





#### **TECHNICAL DETAILS**

### Technical details

Order number

DEMO\_DS

**Established analysis methods** 

qRT-PCR, DNA sequencing, fragment length analysis, CNV assay, GC-MS, Immunocap ISAC, Cytolisa

**Product codes** 

**03MIC** 

**Ordering company** 

ProGenom GmbH Riedstrasse 1 6343 Rotkreuz SWITZERLAND

**Laboratory Director** 

Dr. Daniel Wallerstorfer Bsc.

Date of birth

01/01/1990

Report generated

19/03/2021 15:49:21

**Current version** 

V538

**Analyzing company** 

DNA Plus - Zentrum für Humangenetik Georg Wrede Strasse 13 83395 Freilassing Deutschland

**Laboratory Manager** 

Florian Schneebauer, MSc.

ProGenon

DEMO\_DS Page 63 of 63

### **NOTES:**













Micronutrient Sensor

Maria Musterfrau

DEMO\_DS