ProVitalDNA

Toxo Sensor

Maria Musterfrau

DEMO_DS

ProGenom
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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

Toxo 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.

Toxo Sensor

How your body is able to detoxify different harmful substances.

Phase 1 Detoxification of ashes and soot

Polycyclic aromatic hydrocarbons (PAHs) are common atmospheric pollutants produced mainly by burning fossil fuels such as coal, natural gas and oil. These pollutants enter the body via a myriad of paths: in food and drinking water, through the lungs when fumes or smoke are inhaled, and even directly through the skin. Once in our bodies, they can cause many different types of diseases.

A number of detoxification genes are responsible for the production of important detoxification enzymes. These enzymes bind to pollutants in the body and render them harmless. If these genes are defective, they cannot properly function, and the exposure to these pollutants can endanger your health. Therefore, it is very important for people carrying a genetic defect to be aware of their increased risk, and to minimize the contact with contaminants in order to remain healthy. In the case of limited detoxification capabilities, it is essential to avoid cigarette smoke.

Your genetic analysis revealed the following:

Genetic traits

SYMBOL	rs NCBI	POLYMORPH	GENOTYPE
CYP1A1	rs4646903	T>C	T/T
CYP1B1	rs1056836	C>G	C/C

Summary of effects

- Phase 1 Detoxification is not limited
- Detoxification of ashes, smoke and soot (grilled foods) is not limited

Effectiveness of Phase 1 Detoxification

Detoxification of ashes, soot (food), smoke

Phase 2 Detoxification of pesticides & heavy metals

Detoxification genes produce enzymes that bind and neutralize toxic substances often found in industrial solvents, herbicides, fungicides or insect repellent sprays, and also neutralize toxic heavy metals such as mercury, lead and cadmium. As long as they function efficiently, these genes ensure that these toxic substances are effectively filtered out of your body. However, these genes can carry traits that prevent your body from adequately detoxifying these substances. These traits significantly increase the risk of many different types of cancer and chronic fatigue syndrome.

Genetic traits

SYMBOL	rs NCBI	POLYMORPH	GENOTYPE
GSTM1	Null allele	Null allele	INS
GSTT1	Null allele	Null allele	DEL
GSTP1	rs1695	A>G	G/A

Summary of effects

- Phase 2 Detoxification of pesticides, chemicals and heavy metals is limited
- You need large amounts of calcium, selenium and zinc

Effectiveness of Phase 2 Detoxification

Detoxification of heavy metals

Detoxification of pesticides, chemicals, fungicides, herbicides and insect repellent sprays

Oxidative stress and 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.

Certain genes are responsible for the neutralization of free radicals. Unfortunately, many people have genetic traits that reduce their protection from free radicals. If your body does not have an innate ability to neutralize free radicals, you should consume higher levels of antioxidants (such as beta-carotene, vitamin C, vitamin E and acetylcysteine) that will increase your body's ability to resist oxidative stress.

Coenzyme Q10 is a strong antioxidant that is capable of neutralizing free radicals but only after being transformed into its active form, ubiquinol, by a certain gene. If this gene does not function, coenzyme Q10 cannot be transformed into ubiquinol and cannot protect against free radicals. It is therefore important to know if your body is capable of activating coenzyme Q10 to determine your need to take antioxidants.

The antioxidant enzyme glutathione peroxidase (GPX) is crucial for the detoxification of free radicals in the body's cells. Selenium is, among other things, important for enzymatic activity. If the gene is defective, it decreases its activity and certain free radicals can be only poorly neutralized. An elevated selenium intake may increase the GPX activity.

Genetic traits

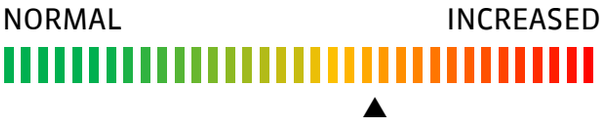
SYMBOL	rs NCBI	POLYMORPH	GENOTYPE
GSTM1	Null allele	Null allele	INS
GSTT1	Null allele	Null allele	DEL
GSTP1	rs1695	A>G	G/A
SOD2	rs4880	C>T	T/T
GPX1	rs1050450	C>T	C/C
NQO1	rs1800566	C>T	C/C

LEGEND: rsNCBI = description of examined genetic variation, POLYMORPHISM = form of the genetic variation, GENOTYPE = personal analysis result

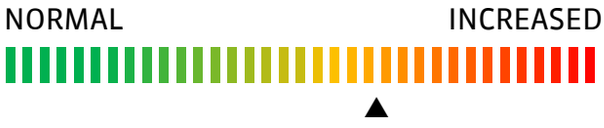
Summary of effects

- You have a significantly elevated level of oxidative stress in your cells.
- You should consume a high amount of antioxidants.
- Your body is able to activate inactive coenzyme Q10.
- Your diet or a dietary supplement can be a source of coenzyme Q10.
- Your need for selenium is average

Your oxidative stress in cells



Recommended dose of antioxidants



Activation of coenzyme Q10 to ubiquinol

Recommended antioxidant substance

Your daily requirement of selenium

Substances and risks

Every person is exposed to substances that affect them depending on their genes. The moderate consumption of alcohol is, for most people, not a problem, while others have a significantly higher risk of becoming addicted due to genetic variations. Illegal drugs have different effects on our bodies. Caffeine is also degraded at different rates for different genetic types, and leads to different levels of caffeine/coffee consumption. Your genetic analysis came to the following conclusion:

Genetic traits

SYMBOL	rs NCBI	POLYMORPH	GENOTYPE
COMT	rs4680	G>A	A/G
CYP1A2	rs762551	C/A Pos. -163	A/A

LEGEND: rsNCBI = description of examined genetic variation, POLYMORPHISM = form of the genetic variation, GENOTYPE = personal analysis result

Summary of effects

- You have a normal risk of alcoholism
- Consumption of cannabis before the age of 16 increases your risk of schizophrenia by 2.5 times increased
- 2+ cups of coffee per day could delay the development of breast cancer by approximately 7 years
- Your body breaks down caffeine at a normal rate.

Your risk of alcohol dependence

NORMAL INCREASED

How quickly is caffeine broken down?

NORMAL SLOW

The effect of coffee on breast cancer

EFFECTIVE INEFFECTIVE

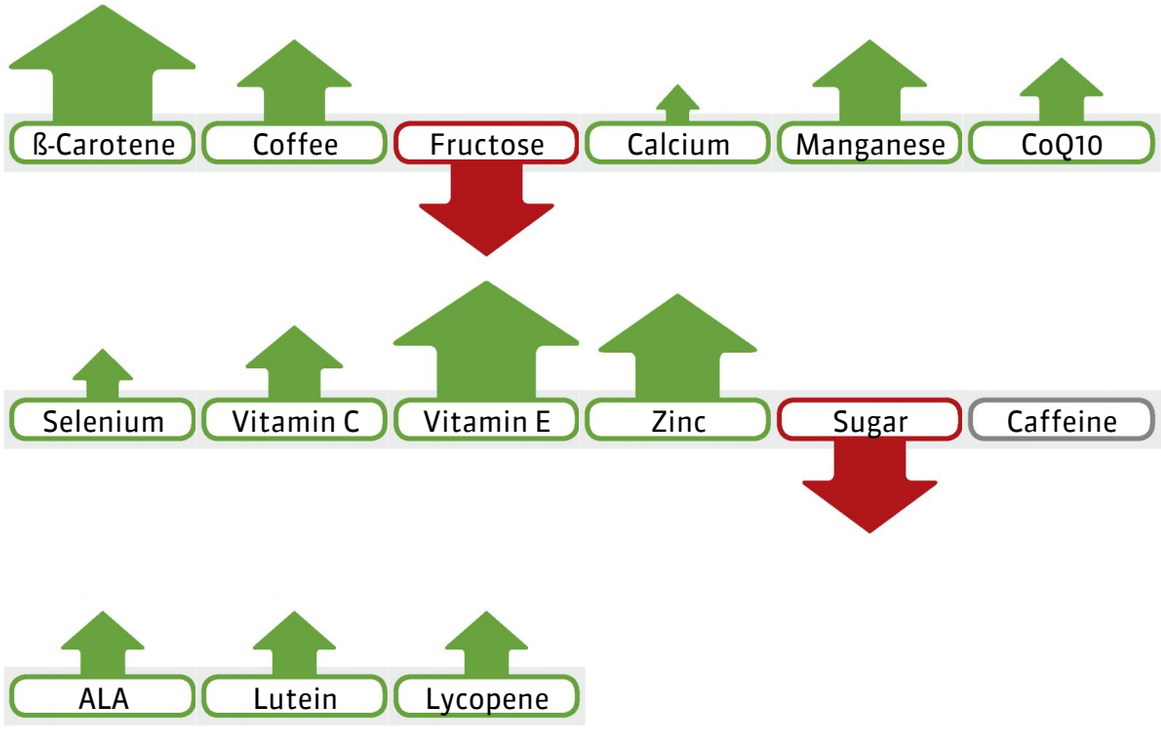
Your risk of schizophrenia (use of cannabis during adolescence)

NORMAL INCREASED

Nutritional Genes - Oxidative Stress

Your nutrition is very important. Based on your genes and their associated strengths and weaknesses you should increase or decrease certain foods and nutrients. These recommendations are calculated based on your genetic profile.

Your personalized recommendations based on this section:



Legend: GREEN ARROWS > this nutrient or substance is classed as healthy for your genetic profile. Try to increase the intake of this substance. RED ARROWS > this substance is classed as unhealthy for your genetic profile. Try to reduce your intake of the substance. NO ARROWS > There is no effect of the nutrient on the genetics of this section. PLEASE NOTE! This interpretation only considers your genetic profile of this section.

Nutritional Genes - Heavy metal detoxification

Your nutrition is very important. Based on your genes and their associated strengths and weaknesses you should increase or decrease certain foods and nutrients. These recommendations are calculated based on your genetic profile.

Your personalized recommendations based on this section:

Legend: GREEN ARROWS > this nutrient or substance is classed as healthy for your genetic profile. Try to increase the intake of this substance. RED ARROWS > this substance is classed as unhealthy for your genetic profile. Try to reduce your intake of the substance. NO ARROWS > There is no effect of the nutrient on the genetics of this section. PLEASE NOTE! This interpretation only considers your genetic profile of this section.

Prevention

PHASE 2 DETOXIFICATION: Your genes cause a reduced Phase 2 detoxification. Therefore, your body does not eliminate certain pollutants efficiently. You should familiarize yourself with the potential sources of these pollutants, and reduce the contact with them as much as possible. You should avoid the following sources:

MERCURY
Most uses of mercury are not allowed in Europe because of its toxicity. However, dental amalgam fillings still contain traces of mercury, so it would be advisable for you to use other materials for fillings. Selenium is an effective mercury detoxifier, and should be included in your diet. Eat a balanced diet which is rich in nuts, or use dietary supplements that contain selenium.

LEAD
Dust containing lead is the main cause of lead contamination. The main sources of lead dust are the lead industry, coal-burning power plants and vehicle emissions. People who work in plants that produce or process lead are exposed to the most levels of lead. Try to reduce any contact with sources of lead, e.g. by using respiratory protection. In highly polluted regions, lead can be contained on dust that falls on plants. This dust may be removed by careful washing. Lead contained in plates and dishes can be ingested when eating acidic food (fruits, wine, vegetables). Therefore, avoid dishes that contain lead. Calcium is an important component in lead detoxification. Eat a diet rich in calcium (including dairy products and dark green vegetables) or use dietary supplements that contain calcium.

CADMIUM
Cadmium is mostly ingested through food. Cadmium-rich foods include liver, mushrooms, mussels and other shellfish, cocoa powder and dried seaweed. Another important source of cadmium is flaxseed, and as such, some genetically susceptible people are advised to limit their intake of flaxseed to no more than 20g per day. In addition, since the introduction of artificial fertilizers, cadmium finds its way into almost all types of food. Even tobacco smoke transports relatively large quantities of cadmium to the lungs, from where it is transported into the entire body. Try to base your diet on organic products, which are produced without artificial fertilizers, and refrain from smoking. Use adequate respiratory protection if your working environment is polluted with cadmium. Zinc is an important component in the cadmium detoxification process. Follow a diet rich in zinc (for example, seafood) or use dietary supplements that contain zinc.

CHEMICALS
Pollutants found in industrial solvents, herbicides, fungicides or insecticides can also have a negative impact on your health. Try to base your diet on organic products, and carefully wash vegetables and fruits before eating them. Avoid skin contact with industrial solvents, and use

adequate respiratory protection when working with these agents.

POLLUTION TEST
The amalgam load is easy to check with a chewing gum test. It would therefore be advisable, if necessary, to carry out such a test with your doctor.

Oxidative stress: According to your genetic profile, you are not sufficiently protected against the harmful effects of free radicals. For this reason, you should ensure that your diet contains enough antioxidants.

FREE RADICALS
Based on your genes, your defense against free radicals (toxic substances in your body) is lower than normal. Therefore, your diet should include larger amounts of antioxidants than normal. Increase your intake of vegetables and coloured fruits.

Substances: Your genes influence the effect that many substances have on your body. Based on your genetic profile, you should be aware of the following traits:

CAFFEINE
Your body breaks down caffeine at a normal rate.

BODY WEIGHT GENES
Not ordered

YOUR NUTRITION TYPE TO LOSE WEIGHT
Not ordered

YOUR SPORTS TYPE FOR LOSING WEIGHT
Not ordered

YOUR WEIGHT LOSS PROGRAM
Not ordered

YOUR SPORTS PROGRAM TO LOSE WEIGHT
Not ordered

NUTRITION GENES
Not ordered

GENETIC TRAITS
Not ordered

FOOD INGREDIENTS
Not ordered

DIETARY SUPPLEMENT
Not ordered

EPIGENETICS
Not ordered

DETOXIFICATION

BIOLOGICAL AGE
Not ordered

BURNOUT
Not ordered

MUSCLE FIBRE TYPE
Not ordered

OXIDATIVE STRESS AND RISK OF INJURY
Not ordered

OPTIMAL PERFORMANCE NUTRITION
Not ordered

SCIENCE

ADDITIONAL INFORMATION

SCIENCE

This chapter shows the science behind the test.

Detoxification

CYP1A1 - Cytochrome P450, family 1, subfamily A, polypeptide 1 (rs4646903)

The haeme protein cytochrome P450-1A1 (CYP1A1) belongs to the group of phase I enzymes, and mediates the metabolism of environmental toxins and various xenobiotic substances. Defects in this gene can alter the enzymatic activity.

RES	Genotype	POP	Possible results
X	T/T	52%	Effective phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) Effective detoxification of ash, soot and smoke
	T/C	37%	Limited phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) (OR: 2.4) Limited detoxification of ash, soot and smoke
	C/C	11%	Limited phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) (OR: 2.4) Limited detoxification of ash, soot and smoke

References

Sun et al. Polymorphisms in Phase I and Phase II Metabolism Genes and Risk of Chronic Benzene Poisoning in a Chinese Occupational Population. Carcinogenesis. 2008 Dec,29(12):2325-9.

Marinković et al. Polymorphisms of genes involved in polycyclic aromatic hydrocarbons' biotransformation and atherosclerosis. Biochem Med (Zagreb). Oct 2013, 23(3): 255–265.

Wright et al. Genetic association study of CYP1A1 polymorphisms identifies risk haplotypes in nonsmall cell lung cancer. Eur Respir J 2010, 35: 152–159.

Jarvis et al. CYP1A1 MSPI (T6235C) gene polymorphism is associated with mortality in acute coronary syndrome patients. Clin Exp Pharmacol Physiol. 2010 Feb,37(2):193-8.

CYP1B1 - Cytochrome P450, family 1, subfamily B, polypeptide 1 (rs1056836)

CYP1B1 belongs to the cytochrome P450 superfamily. This protein catalyzes reactions for detoxification of endogenous metabolites and exogenous toxic substances. This catalytic activity can be affected by polymorphisms.

RES	Genotype	POP	Possible results
X	C/C	23%	Effective phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) Effective detoxification of ash, soot and smoke
	C/G	31%	Limited phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) (OR: 3.4) Limited detoxification of ash, soot and smoke
	G/G	36%	Limited phase 1 detoxification of polycyclic aromatic hydrocarbons (PAHs) (OR: 3.4) Limited detoxification of ash, soot and smoke

References

Nock et al. Associations between Smoking, Polymorphisms in Polycyclic Aromatic Hydrocarbon (PAH) Metabolism and Conjugation Genes and PAH-DNA Adducts in Prostate Tumors Differ by Race. Cancer Epidemiol Biomarkers Prev. Jun 2007, 16(6): 1236–1245.

Hanna et al. Cytochrome P450 1B1 (CYP1B1) pharmacogenetics: association of polymorphisms with functional differences in estrogen hydroxylation activity. Cancer Res. 2000 Jul 1,60(13):3440-4.

Tang et al. Human CYP1B1 Leu432Val gene polymorphism: ethnic distribution in African-Americans, Caucasians and Chinese, oestradiol hydroxylase activity, and distribution in prostate cancer cases and controls. Pharmacogenetics. 2000 Dec,10(9):761-6.

GSTM1 - glutathione s-transferase mu1 (null allele)

The glutathione s-transferases are found in the liver and in lymphocytes. They are involved in the detoxification of endogenous and exogenous substances. A defective GSTM1 gene reduces the enzymatic activity of the protein, which leads to a limited cellular detoxification.

RES	Genotype	POP	Possible results
X	INS	56%	Effective phase 2 detoxification Effective detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Good protection against oxidative stress/free radicals
	DEL	44%	Limited phase 2 detoxification Limited detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Limited protection against oxidative stress/free radicals

References

McWilliams et al. Glutathione S-transferase M1 (GSTM1) deficiency and lung cancer risk. Cancer Epidemiol Biomarkers Prev 1995,4:589-594.

Sreeja et al. Glutathione S-transferase M1, T1 and P1 polymorphisms: susceptibility and outcome in lung cancer patients. J Exp Ther Oncol. 2008,7(1):73-85.

Funke et al. Genetic Polymorphisms in Genes Related to Oxidative Stress (GSTP1, GSTM1, GSTT1, CAT, MnSOD, MPO, eNOS) and Survival of Rectal Cancer Patients after Radiotherapy. J Cancer Epidemiol. 2009, 2009: 302047.

GSTP1 - glutathione s-transferase pi 1 (rs1695)

The glutathione s-transferases are found in the liver and in lymphocytes. They are involved in the detoxification of endogenous and exogenous substances. The GSTP1 enzymes are involved in the metabolism of endogenous metabolites, and protect the cells against oxidative stress- similar to GSTM1 and GSTT1.

RES	Genotype	POP	Possible results
	A/A	43%	Effective phase 2 detoxification Effective detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Good protection against oxidative stress/free radicals
X	A/G	43%	Limited phase 2 detoxification Limited detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Limited protection against oxidative stress/free radicals
	G/G	14%	Limited phase 2 detoxification Limited detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Limited protection against oxidative stress/free radicals

References

Sreeja et al. Glutathione S-transferase M1, T1 and P1 polymorphisms: susceptibility and outcome in lung cancer patients. J Exp Ther Oncol. 2008,7(1):73-85.

Miller et al. An association between glutathione S-transferase P1 gene polymorphism and younger age at onset of lung carcinoma. Cancer. 2006 Oct 1,107(7):1570-7.

Funke et al. Genetic Polymorphisms in Genes Related to Oxidative Stress (GSTP1, GSTM1, GSTT1, CAT, MnSOD, MPO, eNOS) and Survival of Rectal Cancer Patients after Radiotherapy. J Cancer Epidemiol. 2009, 2009: 302047.

Stücker et al. Genetic polymorphisms of glutathione S-transferases as modulators of lung cancer susceptibility. Carcinogenesis. 2002 Sep, 23(9):1475-81.

GSTT1 - glutathione s-transferase theta 1 (null allele)

The glutathione s-transferases are found in the liver and in lymphocytes. They are involved in the detoxification of endogenous and exogenous substances. A defective GSTM1 gene reduces the enzymatic activity of the protein, which leads to a limited cellular detoxification.

RES	Genotype	POP	Possible results
	INS	74%	Effective phase 2 detoxification Effective detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Good protection against oxidative stress/free radicals
X	DEL	26%	Limited phase 2 detoxification Limited detoxification of pesticides, chemicals, fungicides, weed agents, insect sprays and heavy metals Limited protection against oxidative stress/free radicals

References

Sreeja et al. Glutathione S-transferase M1, T1 and P1 polymorphisms: susceptibility and outcome in lung cancer patients. J Exp Ther Oncol. 2008,7(1):73-85.

Funke et al. Genetic Polymorphisms in Genes Related to Oxidative Stress (GSTP1, GSTM1, GSTT1, CAT, MnSOD, MPO, eNOS) and Survival of Rectal Cancer Patients after Radiotherapy. J Cancer Epidemiol. 2009, 2009: 302047.

Hayes JD et al. Glutathione S-transferase polymorphisms and their biological consequences. Pharmacology. 2000 Sep,61(3):154-66.

SOD2 - superoxide dismutase 2, mitochondrial (rs4880)

SOD2 encodes the superoxide dismutase enzyme 2 and it is involved in the degradation of reactive oxygen molecules (ROS), thus protecting the body against oxidative stress. Defects may affect the enzymatic activity of the SOD2 enzyme, resulting in a limited protection against the free radicals.

RES	Genotype	POP	Possible results
	C/C	37%	Good protection against oxidative stress/free radicals
	C/T	43%	Limited protection against oxidative stress/free radicals
X	T/T	20%	Limited protection against oxidative stress/free radicals

References

Sutton et al. The manganese superoxide dismutase Ala16Val dimorphism modulates both mitochondrial import and mRNA stability. Pharmacogenet Genomics. 2005 May,15(5):311-9.

Funke et al. Genetic Polymorphisms in Genes Related to Oxidative Stress (GSTP1, GSTM1, GSTT1, CAT, MnSOD, MPO, eNOS) and Survival of Rectal Cancer Patients after Radiotherapy. J Cancer Epidemiol. 2009, 2009: 302047.

Pourvali K et el. Role of Superoxide Dismutase 2 Gene Ala16Val Polymorphism and Total Antioxidant Capacity in Diabetes and its Complications. Avicenna J Med Biotechnol. 2016 Apr-Jun,8(2):48-56.

Paludo FJ et al. Effects of 47C allele (rs4880) of the SOD2 gene in the production of intracellular reactive species in peripheral blood mononuclear cells with and without lipopolysaccharides induction. Free Radic Res. 2014 Feb,48(2):190-9. doi: 10.3109/10715762.2013.859385. Epub 2013 Nov 21.

Massy ZA et al. The role of oxidative stress in chronic kidney disease. Semin Dial. 2009 Jul-Aug,22(4):405-8. doi: 10.1111/j.1525-139X.2009.00590.x.

Soerensen M et al. The Mn-superoxide dismutase single nucleotide polymorphism rs4880 and the glutathione peroxidase 1 single nucleotide polymorphism rs1050450 are associated with aging and longevity in the oldest old. Mech Ageing Dev. 2009 May,130(5):308-14. doi: 10.1016/j.mad.2009.01.005. Epub 2009 Feb 5.

Zejnilovic J. et al. Association between manganese superoxide dismutase polymorphism and risk of lung cancer. Cancer Genet Cytogenet. 2009 Feb,189(1):1-4. doi: 10.1016/j.cancergencyto.2008.06.017.

Lightfoot TJ. Et al. Polymorphisms in the oxidative stress genes, superoxide dismutase, glutathione peroxidase and catalase and risk of non-Hodgkin's lymphoma. Haematologica. 2006 Sep,91(9):1222-7.

Sutton A. et al. The Ala16Val genetic dimorphism modulates the import of human manganese superoxide dismutase into rat liver mitochondria. Pharmacogenetics. 2003 Mar.13(3):145-57.

GPX1 - glutathione peroxidase (rs1050450)

The GPX gene encodes the enzyme glutathione peroxidase, which catalyzes the reduction of peroxides and hydrogen peroxide. Thus, GPX plays a role in protecting the body against oxidative stress.

RES	Genotype	POP	Possible results
X	C/C	62%	Good protection against oxidative stress/free radicals
	C/T	33%	Limited protection against oxidative stress/free radicals
	T/T	5%	Limited protection against oxidative stress/free radicals

References

Tang et al. Association between the rs1050450 glutathione peroxidase-1 (C > T) gene variant and peripheral neuropathy in two independent samples of subjects with diabetes mellitus. Nutr Metab Cardiovasc Dis. 2012 May,22(5):417-25.

Bhatti et al. Lead exposure, polymorphisms in genes related to oxidative stress and risk of adult brain tumors. Cancer Epidemiol Biomarkers Prev. Jun 2009, 18(6): 1841–1848.

Xiong et al. Association study between polymorphisms in selenoprotein genes and susceptibility to Kashin-Beck disease. Osteoarthritis Cartilage. 2010 Jun,18(6):817-24.

Soerensen et al. The Mn-superoxide dismutase single nucleotide polymorphism rs4880 and the glutathione peroxidase 1 single nucleotide polymorphism rs1050450 are associated with aging and longevity in the oldest old. Mech Ageing Dev. 2009 May,130(5):308-14.

Steinbrecher et al. Effects of selenium status and polymorphisms in selenoprotein genes on prostate cancer risk in a prospective study of European men. Cancer Epidemiol Biomarkers Prev. 2010 Nov,19(11):2958-68.

Chen et al. GPx-1 polymorphism (rs1050450) contributes to tumor susceptibility: evidence from meta-analysis. J Cancer Res Clin Oncol. 2011 Oct,137(10):1553-61.

Karunasinghe et al. Serum selenium and single-nucleotide polymorphisms in genes for selenoproteins: relationship to markers of oxidative stress in men from Auckland, New Zealand. Genes Nutr. 2012 Apr,7(2):179-90.

Hong et al. GPX1 gene Pro200Leu polymorphism, erythrocyte GPX activity, and cancer risk. Mol Biol Rep. 2013 Feb,40(2):1801-12.

Jablonska E et al. Association between GPx1 Pro198Leu polymorphism, GPx1 activity and plasma selenium concentration in humans. Eur J Nutr. 2009 Sep,48(6):383-6.

Cominetti C et al. Associations between glutathione peroxidase-1 Pro198Leu polymorphism, selenium status, and DNA damage levels in obese women after consumption of Brazil nuts. Nutrition. 2011 Sep,27(9):891-6.

Miller JC et al. Influence of the glutathione peroxidase 1 Pro200Leu polymorphism on the response of glutathione peroxidase activity to selenium supplementation: a randomized controlled trial. Am J Clin Nutr. 2012 Oct,96(4):923-31.

Combs GF Jr et al. Differential responses to selenomethionine supplementation by sex and genotype in healthy adults. Br J Nutr. 2012 May,107(10):1514-25.

NQO1 - NAD(P)H dehydrogenase, quinone 1 (rs1800566)

The enzyme NAD(P)H dehydrogenase, encoded by the NQO1, is a so-called oxidoreductase, and catalyzes the oxidation of nicotinamide adenine dinucleotide (NAD). The polymorphism rs1800566 inhibits the enzymatic activity, and coenzyme Q10 cannot be converted into ubiquinol, or the conversion is slower than normal.

RES	Genotype	POP	Possible results
X	C/C	51%	The enzyme NQO1 effectively converts the coenzyme Q10 into the antioxidant ubiquinol.
	C/T	40%	The enzyme NQO1 converts the coenzyme Q10 into the antioxidant ubiquinol at a slower rate.
	T/T	9%	The enzyme NQO1 cannot convert the coenzyme Q10 into the antioxidant ubiquinol.

References

Fischer et al. Association between genetic variants in the Coenzyme Q10 metabolism and Coenzyme Q10 status in humans. Published online Jul 21, 2011.

Freriksen et al. Genetic polymorphism 609C>T in NAD(P)H:quinone oxidoreductase 1 enhances the risk of proximal colon cancer. J Hum Genet. 2014 May 15.

Traver RD et al. Characterization of a polymorphism in NAD(P)H: quinone oxidoreductase (DT-diaphorase). Br J Cancer. 1997,75(1):69-75.

COMT - Catechol-O-methyltransferase (rs4680)

The enzyme catechol-O-methyltransferase (COMT) can inactivate various substances (epinephrine, norepinephrine and dopamine) and initiate their breakdown. In addition, COMT may inhibit the effect of various drugs. The COMT rs4680 polymorphism is associated with psychological disorders, such as schizophrenia, eating disorders and alcoholism.

RES	Genotype	POP	Possible results
	A/A	15%	No effect Increased risk of alcoholism Associated with insufficient breakdown of epinephrine, norepinephrine and dopamine
X	A/G	44%	Increased risk of schizophrenia when cannabis is consumed under the age of 16 years (OR: 2.5) Normal risk of alcoholism
	G/G	41%	Increased risk of schizophrenia when cannabis is consumed under the age of 16 years (OR: 10.9) Normal risk of alcoholism

References

Caspi et al. Moderation of the effect of adolescent-onset cannabis use on adult psychosis by a functional polymorphism in the catechol-O-methyltransferase gene: longitudinal evidence of a gene X environment interaction. Biol Psychiatry. 2005 May 15,57(10):1117-27.

Kauhanen J et al. Association between the functional polymorphism of catechol-O-methyltransferase gene and alcohol consumption among social drinkers. Alcohol Clin Exp Res. 2000 Feb,24(2):135-9.

Hursel R et al. The role of catechol-O-methyl transferase Val(108/158)Met polymorphism (rs4680) in the effect of green tea on resting energy expenditure and fat oxidation: a pilot study. PLoS One. 2014 Sep 19,9(9):e106220.

Smith SB et al. Epistasis between polymorphisms in COMT, ESR1, and GCH1 influences COMT enzyme activity and pain. Pain. 2014 Nov,155(11):2390-9.

Tammimäki A et al. Catechol-O-methyltransferase gene polymorphism and chronic human pain: a systematic review and meta-analysis. Pharmacogenet Genomics. 2012 Sep,22(9):673-91.

T Wang et al. Association study of the low-activity allele of catechol-O-methyltransferase and alcoholism using a family-based approach. Mol Psychiatry. 2001 Jan,6(1):109-11.

Tiihonen J et al. Association between the functional variant of the catechol-O-methyltransferase (COMT) gene and type 1 alcoholism. Mol Psychiatry. 1999 May,4(3):286-9.

CYP1A2 - cytochrome P450, family 1, subfamily A, polypeptide 2 (rs762551)

The haeme protein cytochrome P450-1A2 (CYP1A2) belongs to the group of cytochrome P450 enzymes, and metabolizes various xenobiotic substances (including caffeine), medications and oestrogens. The polymorphism rs762551 is associated with the risk of breast cancer.

RES	Genotype	POP	Possible results
X	A/A	41%	Caffeine is broken down normally The consumption of 2 or more cups of coffee per day delays the appearance of breast cancer by approximately 7 years (59.8 years instead of 52.6 years).
	A/C	44%	Caffeine is broken down slowly Coffee consumption does not influence the appearance of breast cancer
	C/C	15%	Caffeine is broken down slowly Coffee consumption does not influence the appearance of breast cancer

References

Bågeman et al. Coffee consumption and CYP1A2*1F genotype modify age at breast cancer diagnosis and estrogen receptor status. Cancer Epidemiol Biomarkers Prev. 2008 Apr,17(4):895-901.

"Caffeine". DrugBank. University of Alberta. 16 September 2013. Retrieved 8 August 2014.

Sachse C et al. Functional significance of a C-->A polymorphism in intron 1 of the cytochrome P450 CYP1A2 gene tested with caffeine. Br J Clin Pharmacol. 1999 Apr,47(4):445-9.

LEGEND: RES = your personal analysis result (marked with an X), GENOTYPE = different variations of the gene (called alleles),
POP = percent of the general population that have this genetic result,
POSSIBLE RESULTS = influence of the genetic variation.

BODY WEIGHT GENES
Not ordered

YOUR NUTRITION TYPE TO LOSE WEIGHT
Not ordered

YOUR SPORTS TYPE FOR LOSING WEIGHT
Not ordered

YOUR WEIGHT LOSS PROGRAM
Not ordered

YOUR SPORTS PROGRAM TO LOSE WEIGHT
Not ordered

NUTRITION GENES
Not ordered

GENETIC TRAITS
Not ordered

FOOD INGREDIENTS
Not ordered

DIETARY SUPPLEMENT
Not ordered

EPIGENETICS
Not ordered

DETOXIFICATION

BIOLOGICAL AGE
Not ordered

BURNOUT
Not ordered

MUSCLE FIBRE TYPE
Not ordered

OXIDATIVE STRESS AND RISK OF INJURY
Not ordered

OPTIMAL PERFORMANCE NUTRITION
Not ordered

SCIENCE

ADDITIONAL INFORMATION

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

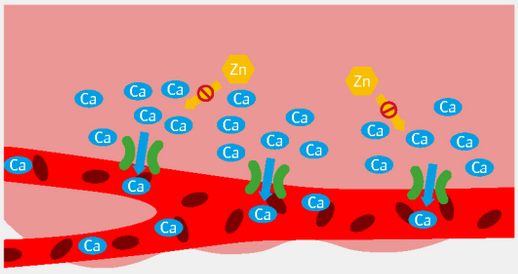
Your recipe code:

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.

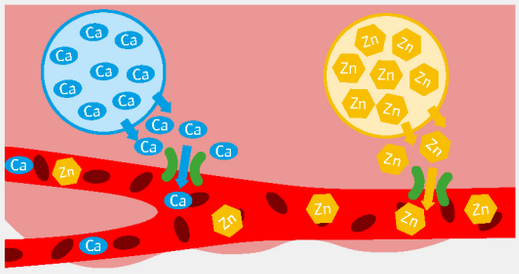
Standard micronutrients: Mutual uptake inhibition



Inhibited absorption of certain micronutrients

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.

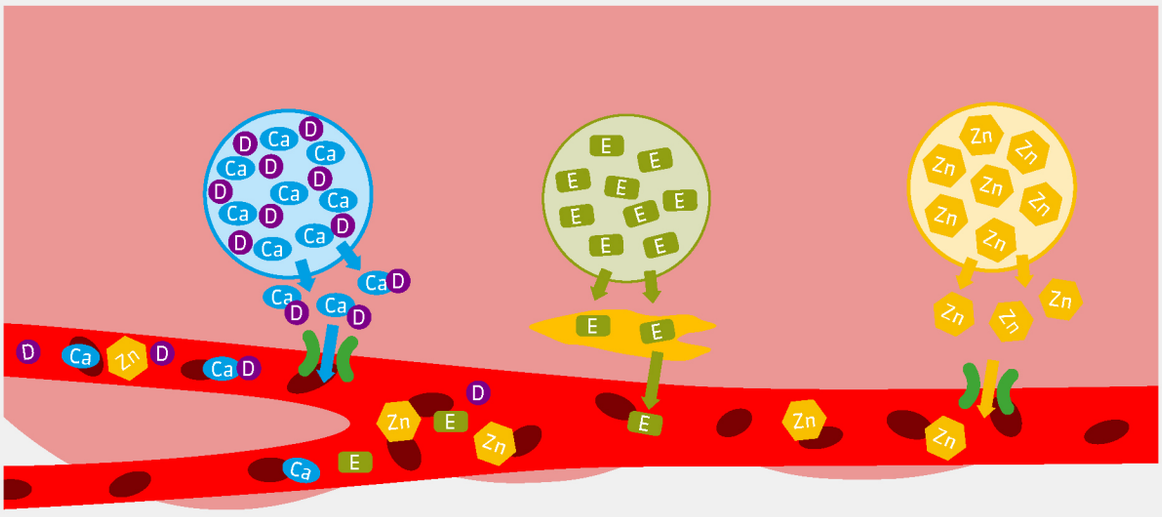
NutriMe Complete - Optimized absorption properties



Physically separated distribution for better absorption

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



Micro-transporters – optimized nutrient uptake

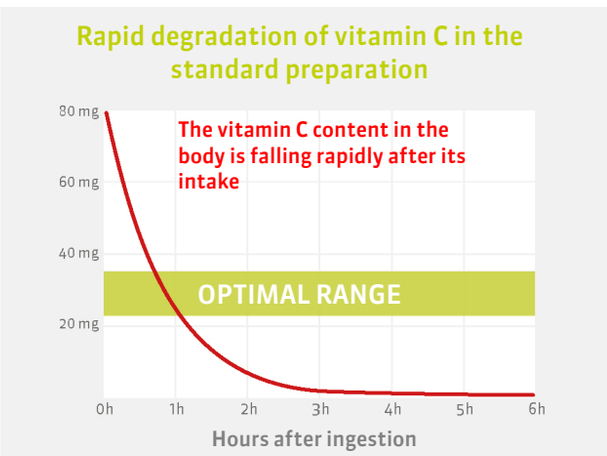
We also know that certain micronutrients can increase each other's absorption, therefore they are released together from the same micro-transporter so that absorption of the micronutrients is maximized, e.g. vitamin D and calcium.

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 micro-transporters 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

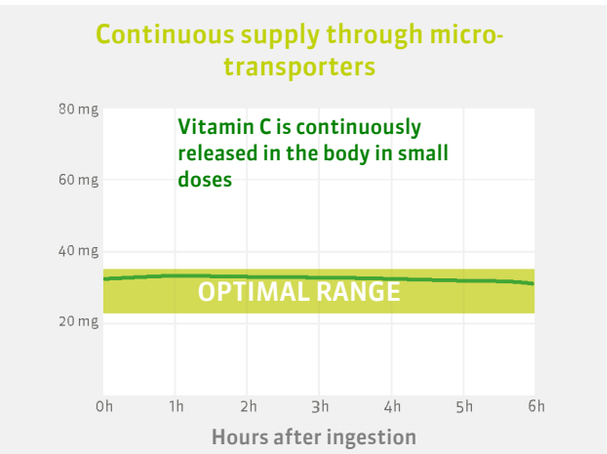
The wrong dosage can quickly result in the body receiving insufficient micronutrients. Therefore, the micronutrient supplements must release the correct micronutrients into the body at the correct time.

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 performance

Iron
- 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

Folic acid
- 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

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

Magnesium
- 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 blood

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

Vitamin B12
- 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 E
- 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 (α-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

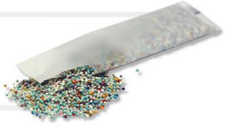
...online at:
www.ProGenom.com

Your recipe code:
DEMO_DS

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

Follow us on facebook!

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

ProGenom
www.progenom.com

https://www.facebook.com/ProGenom

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

BUNDESMINISTERIUM FÜR GESUNDHEIT

Cosmetic/genetic diagnostics and cosmetics manufacturing

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

qualityaustria
SYSTEM CERTIFIED
EN ISO 22716:2007 No.00010/0

Food supplement manufacturing

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

qualityaustria
SYSTEM CERTIFIED
ISO 22000:2018 No.00521/0

Science continues to progress – so do our programs!

Science is progressing rapidly and almost every day new findings in the fields of medicine and genetics allow us more accurate statements. Guidelines for the prevention or treatment of health problems and recommended consumption quantities for vitamins change and improve periodically, and therefore the programs we have today are a lot more accurate than the information we had ten years ago. This is exactly the same for genetics.

Every year new genes are discovered, new effects of already known genes are identified, and the recommendations for actions that exist for certain genetic profiles change and improve over time. Since the development of our first product, we have integrated more than 400 improvements into the programs to ensure that the product is always up-to-date with latest science and technology, and remains consumer-friendly.

Although a person's genetic result stays the same for their lifetime, interpretation of the results is constantly improving with new available science. We also constantly enhance the product with improved wording, more accurate and better calculation methods for nutrition, as well as new findings in regards to how often certain mutations occur in the general population. Therefore, it is possible that a few months after you have received your report, some data and statements have changed and are more accurate than in the first version of the report. The genetic reports also consider your current body weight and your age, which is why some recommendations may differ slightly from earlier statements (that are based on a different age and body weight).

A new booklet in accordance with the latest developments in science and product development.

We do not want to withhold the positive improvements of our genetic programs from you. Therefore, you may enquire at any time if there are any new findings that might make a revision of your old genetic results with the newest interpretations, possible. In this instance, we can, for a small fee, issue a new and improved booklet for you. You may find certain deviations from the old booklet but these represent the improvements in this area.

Common improvements you might receive this way are:

Product developments:

- New food products in the food list
- New methods to plan your nutrition better
- New ways to plan your exercise
- More accurate assessment of calorie calculation
- Adjusted values that influence program intensity
- Better clarity of the reports
- New and improved prevention and treatment options

Age and weight-related adjustments

- New calculations of various numbers are based on your current age and body weight.
- New micronutrient recommendations that consider your new age.

Scientific developments:

- New findings on the effects of already-tested genes (higher or lower risk or new validity)
- New assessment on the effects of certain treatments or medication
- New findings on the frequency of certain mutations in the general population (that can influence the relative risk)

Current version:

- V538

Here you will find a version of the report's history:

- V538 - Foodtable: Calculation of g/article for beverages improved
- V537 - Apple icon calculation and recommendations for soy products have been improved
- V536 - Omega 3 risk calculations and recommendations have been improved
- V535 - Risk calculation of increased iron uptake has been improved
- V534 - Heart health risk calculation was improved and is more accurate now. This affects many other sections
- V533 - Activityfactor calculation (job, sparetime) has been improved
- V532 - Q10 calculation (linkage to oxidative stress) has been improved
- V531 - Lutein minimum and maximum values have been improved
- V530 - Fooditem rating calculation of glycemic index has been improved
- V529 - Genetic risk calculation (UV protection) has been improved
- V528 - Metabolic rate and kcal calculation has been improved
- V527 - Fooditem rating calculation (apple icons) has been improved
- V526 - Recommendations for vitamin C has been improved
- V525 - Recommendations for iron overload predisposition has been improved
- V524 - Supplement composition has been improved
- V523 - ALA values have been improved
- V522 - Influence of lifestyle questions on supplement mixture has been improved and now is more accurate
- V521 - Collagen values have been improved
- V520 - Satiety genetics have been improved
- V519 - Luteine values have been improved
- V518 - Genestory algorithm has been implemented
- V517 - Layout improvements
- V516 - Lutein calculation has been improved
- V515 - Magnesium and calcium RDA calculations have been improved
- V514 - Vitamine B2 calculation has been improved and now is more accurate
- V513 - UGL values for Q10 have been adjusted
- V512 - Layout improvements, Design improvements
- V511 - Beauty genetics implementation
- V510 - Explanation has been added to show the influences for each order on the individual micronutrient recipe
- V509 - The BMR calculation for data entered in the order form was improved and now is more accurate
- V508 - Official guidelines for certain drugs have been added to the pharmacogenetics section
- V507 - More drugs were implemented in the pharmacogenetic section
- V506 - Pharmacogenetic calculation improvements
- V505 - Report Automation: Warning when certain order details are missing
- V504 - Colon health OR calculation has been adjusted
- V503 - Colon health chapter has been improved
- V502 - Skin health section has been improved
- V501 - Pharmacogenetic improvements
- V500 - UGL values have been improved
- V499 - GRA calculation has been improved and now is more accurate
- V498 - RDA values of some micronutrients were adjusted to more accurate values based on science and international regulations
- V497 - Implementation of new modules
- V496 - Micronutrient ranges were better adapted to new science and legal requirements
- V495 - Pharmacogenetic improvements
- V494 - Layout improvements, Design improvements, Report adaptations for DC
- V493 - Further genes were included in the pharmacogenetic analysis
- V492 - Performance improvements
- V491 - Implementation of new modules
- V490 - Algorithm improvements
- V489 - Advert pages have been improved
- V488 - Burnout module update
- V487 - Microbiome upgrade has been implemented
- V486 - Layout improvements, Design improvements
- V485 - Implementation of new modules

- V484 - Layout improvements, Design improvements
- V483 - UGL values have been improved
- V482 - GRA calculation has been improved and now is more accurate
- V481 - Toxo module update
- V480 - Layout improvements, Design improvements
- V479 - Implementation of new modules
- V478 - OR calculation has been improved based on current literature
- V477 - DHC modules have been upgraded
- V476 - Epigenetics module update
- V475 - Performance module update
- V474 - Biological age update
- V473 - Implementation of new modules
- V472 - Magnesium values were adjusted to more accurate values
- V471 - Productname integration has been improved
- V470 - Rebranding options have been improved
- V469 - RDA values of MSM were adjusted to more accurate values based on science and international regulations
- V468 - Micronutrient (MSM) calculation has been improved
- V467 - CYP2D6 allele calculation (pharmacogenetics) has been improved
- V466 - Automated layoutchanges have been improved
- V465 - Lung Health calculation integrated and validated
- V464 - Warfarin dose recommendation improved
- V463 - MAX micronutrient values have been improved
- V462 - UGL values have been improved
- V461 - UGL values have been improved
- V460 - GRA calculation has been improved and now is more accurate
- V459 - GRA calculation has been improved and now is more accurate
- V458 - CHD OR calculation has been improved and now is more accurate
- V457 - Scale bar calculation for micronutrient dosages has been improved
- V456 - Calculation of recipes has been improved
- V455 - Layout improvements, Design improvements, Report adaptations for DC
- V454 - Rebranding options have been improved
- V453 - Rearrangement of DHC chapters
- V452 - Psychological disorder risk calculation was added
- V451 - Further genes were included in the nutrition sensor
- V450 - Improved version history
- V449 - Improved calculation of the food list
- V448 - Improved presentation of the food list
- V447 - Micronutrient recipe was improved and takes now more genes into account
- V446 - Improved presentation of the nutrigenetic chapters
- V445 - Improved sport tables. Icons now show the type of the activity
- V444 - Weight Sensor: Low calorie snacks were improved
- V443 - Improved marketing and order sites make it easier for the consumer to order supplements
- V442 - Rearrangement of all DNC chapters
- V441 - New nutrigenetic overviews were implemented
- V440 - Population frequencies were updated according to the 1000 Gene Project Phase 3
- V439 - Improved calculation of disease risks compared to the average population
- V438 - New improved chapter overview implemented
- V437 - A calculation to produce weight management supplements in the form of pellets has been included
- V436 - More drugs were implemented in the pharmacogenetic section
- V435 - Report Automation: Warning when certain order details are missing
- V434 - Odds ratio calculation was imrpoved for all metabolic problems. Population frequencies were updated according to "The 1000 Genomes Project"
- V433 - Food Components: Calculation of kalium scale bar was improved and now is more accurate
- V432 - Foodtable: Excel layout improvements
- V431 - Foodtable: Excel bar size column was integrated. Now the exact value of the bars are shown
- V430 - Foodtable: Calculation of g/article for vegetables improved
- V429 - Foodtable genetic intolerance columns improved
- V428 - RDA values of some micronutrients were adjusted to more accurate values based on science and international regulations
- V427 - More drugs were implemented in the pharmacogenetic section
- V426 - Micronutrient ranges were better adapted to new science and legal requirements
- V425 - The micronutrient dosages were adapted to new government regulations and new sciences (particularily ALA, D3, C, lycopene, luteine and copper)
- V424 - The BMR calculation for data entered in the orderform was improved and now is more accurate
- V423 - The quality control of entered data was improved by a second double-check
- V422 - Formula restructuring
- V421 - The risk for alcohol dependence calculation was improved and is more accurate now
- V420 - The description of detoxification genes and their genetic variations was improved
- V419 - Having a high risk of alcoholism now also affects the food recommendations for alcohol-containing foods
- V418 - Report automation: Certain report sections are shown for athletic performance reports
- V417 - Report update: Special requests of a distributor (JH) were implemented
- V416 - The risk calculation for bone health based on genetics was improved and now is more accurate
- V415 - The warning threshold for: "attention, this food contains lactose" was lowered, so food types with little lactose also trigger the warning
- V414 - Report update: Special requests of a distributor (DPME) were implemented
- V413 - Report update: Special requests of a distributor (DPME) were implemented
- V412 - The new prostate risk calculation results are now applied to the overview scale bars at the front of the reports
- V411 - Report update: Special requests of a distributor (DPME) were implemented
- V410 - Report update: Special requests of a distributor (KRSD) were implemented
- V409 - The basic metabolic rate at rest was locked at a minimum of 1000kcal, irrespective of age. This is more appropriate for younger users of the weight management programs
- V408 - Design improvements (colour codes)
- V407 - The risk calculation for bone health based on genetics was improved and now is more accurate. Changes are now full applied
- V406 - The risk for diabetes calculation was improved and is now (especially for high risk individuals) more accurate
- V405 - Report automation: Reports for athletic performance were improved for automation
- V404 - The calculation for prostate risk was updated with newer science about how common these variations are in the general population. Risk calculations are now more accurate.
- V403 - Report Automation: Formula update gives alert in case customer details are missing
- V402 - Rarely occurring genetic variants relevant in Alzheimer's Disease were included in the formula
- V401 - Report layout and text improvements for athletic performance tests
- V400 - Linoleic acid risk calculation for the food list was improved and now is more accurate
- V399 - The risk of some bone metabolism genes was improved and now is more accurate
- V398 - The risk for certain eye disease risk calculations and the corresponding food recommendations was improved and now is more accurate
- V397 - Linoleic acid risk calculation for the food list was improved and now is more accurate
- V396 - Special adaptations for vegan customers using allergy testing services
- V395 - Layout improvements, Design improvements, Report adaptations for a distributor (DCR)
- V394 - Report update: New naming system doe new-born screening analyses
- V393 - Report update: Special requests of a distributor (ASGX) were implemented
- V392 - Report Automation: Warning when certain order details are missing
- V391 - Report Automation: Warning when certain order details are missing
- V390 - Cardiovascular disease risk and LDL cholesterol disease risk calculation was improved, especially for high risk individuals and is more accurate now. This affects many other sections
- V389 - Basic metabolic rate at rest calculation was improved for

some weight management reports
- V388 - Special feature for Muslims to help avoid pork
- V387 - Certain report improvements for young patients
- V386 - Report automation: Certain texts are hidden under certain conditions in some reports
- V385 - The recommendation calculation for total iron intake was improved and now is more accurate
- V384 - The recommendation calculation of fructose containing food types was improved and now is more accurate
- V383 - Report automation: Recipe book automation was improved
- V382 - Report automation: Alert systems for certain conditions such as missing details were implemented
- V381 - Report automation: Alert systems for missing gene results were implemented
- V380 - Design, layout and text improvements
- V379 - Report covers were improved
- V378 - Scale bar and text colours for fructose risk were improved
- V377 - Iron intake recommendations were linked to iron overload disorder risk in an improved way and is now more accurate. This influences many aspects of the reports such as food recommendations
- V376 - Report update: Special requests of a distributor (PGNS) were implemented
- V375 - Design and text improvements
- V374 - Better BMI calculation for children implemented, making the calculations in these cases more accurate
- V373 - Report update: Special requests of a distributor (SLGN) were implemented
- V372 - Reports now consider the intake of calcium through nutrition more accurately. This affects many aspects of the food recommendations
- V371 - New gene for new-born birth weight added to reports
- V370 - Text improvements
- V369 - Report automation: Alert systems for certain conditions such as missing details were implemented
- V368 - New BMI calculation formulas implemented for some reports. This calculation is now more accurate
- V367 - Hormone replacement therapy genetic testing is now added to larger packages by default
- V366 - Report update: Special requests of a distributor (DNK) were implemented
- V365 - New pregnancy related gene was added
- V364 - Risk calculation for diabetes Type 2 was improved and now is more accurate. This influences many aspects of the report
- V363 - Risk calculations for spontaneous abortion in pregnancy was improved and now is more accurate
- V362 - Risk calculations for preeclampsia in pregnancy was improved and now is more accurate
- V361 - New pregnancy risk calculations were implemented
- V360 - Report update: Special requests of a distributor (PGMS) were implemented
- V359 - Risk calculations for bone health were improved, which influences many parts of the programs
- V358 - Oxidative stress genes added to athletic performance reports
- V357 - Report update: Special requests of a distributor (PHMLT) were implemented
- V356 - Improved food recommendation calculation for omega 3 was implemented, which influences many aspects of the food list
- V355 - Caffeine break down calculations were improved and are now more accurate
- V354 - Effect of coffee on breast cancer risk in women was implemented in several reports
- V353 - Caffeine recommendations based on breakdown capacity was improved
- V352 - Formula restructuring
- V351 - Fructose containing food recommendations were improved and are now more accurate
- V350 - Fructose containing food recommendations were improved and are now more accurate
- V349 - Report update: Special requests of a distributor (PGMS) were implemented
- V348 - Recommendations for iron intake was improved
- V347 - Recommendations for diabetic nutrition was improved and food list is now more suitable for diabetic patients
- V346 - Design and text improvements
- V345 - Report update: Special requests of a distributor (GNBL) were implemented
- V344 - Micronutrient recommendation calculations were improved and are now more accurate
- V343 - Micronutrient recommendation calculations were improved and are now more accurate
- V342 - Supplement calculations: Formula adjustments for personalized supplement production were implemented
- V341 - Certain questions that influence the athletic performance programs have been implemented
- V340 - Scale bars that show the risk of coffee and caffeine have been improved
- V339 - The program now can consider iron deficiency in its nutritional recommendations as well. Added benefit for iron deficient individuals
- V338 - Supplement automation: New automation system for supplement manufacture implemented
- V337 - Report update: Special requests of a distributor (DNK) were implemented
- V336 - Report update: Special requests of a distributor (GB) were implemented
- V335 - Customer details question answers are now shown in the back of some reports for reference
- V334 - Report update: Special requests of a distributor (DNK) were implemented
- V333 - The scale bar for lactose intolerance risk was improved
- V332 - Report update: Special requests of a distributor (DNK) were implemented
- V331 - Report update: Special requests of a distributor (DNK) were implemented
- V330 - The food recommendation for arachidonic acid containing foods was improved and now is more accurate. This affects animal product-based food recommendations
- V329 - Report update: Special requests of a distributor (DNK) were implemented
- V328 - Hand written notes sheets were added to some reports
- V327 - Certain reports now have a video link for video consultation
- V326 - Report update: Special requests of a distributor (PGMS) were implemented
- V325 - Various improvements to text, layout and design
- V324 - The intensity of the weight management program was adjusted and now is equally intense for all customers. This affects and improves many aspects of the weight management report
- V323 - Detoxification results are shown in certain report types
- V322 - Omega 3 risk calculations and recommendations have been improved and now are more accurate. This has an impact on the food list
- V321 - Video consultation links have been implemented in certain reports
- V320 - Supplement automation: New improvements in producing personalized labels
- V319 - Supplement automation: New improvements in automating the personalized production of weight management supplements
- V318 - Text improvement in some athletic performance reports
- V317 - Text improvement in some athletic performance reports and allergy reports as well as allergy warnings
- V316 - Reports can now consider milk protein intolerance and give better food recommendations
- V315 - The calculation and recommendation for fructose containing foods was improved and now is more accurate
- V314 - Supplement automation: better automation of personalized weight management supplements
- V313 - Report update: Special requests of a distributor (DNK) were implemented
- V312 - Supplement automation improvement
- V311 - Supplement intake recommendations were improved. Some individuals now get the recommendations to take supplements 2 times per day, but have to take a reduced volume.
- V310 - Video consultation link in some reports was improved
- V309 - Supplement automation improvement
- V308 - The risk calculation for thrombosis was improved and now is more accurate
- V307 - Supplement automation improvement for label creation
- V306 - The risk calculation for thrombosis was improved and now is more accurate
- V305 - Video consultation link in some reports was improved
- V304 - Report update: Special requests of a distributor (DNK) were implemented
- V303 - The minimum daily calories a person must eat has been defined and makes the product more suitable for users of low body weight

- V302 - The basic metabolic rate at rest calculation was improved and now is more accurate
- V301 - The scale bars for exercise have been improved in some reports
- V300 - The basic metabolic rate at rest calculation was improved and now is more accurate
- V299 - Certain text improvements were done
- V298 - The warning column in the food list can now be hidden or shown automatically

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.

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Technical details

Order number
DEMO_DS

Date of birth
01/01/1990

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

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Product codes
L5TOX

Current version
V538

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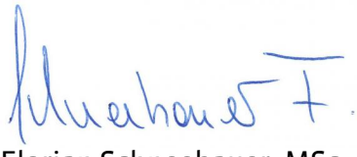

Florian Schneebauer, MSc.

NOTES:


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