Fagron NutriGen™

Professional Nutrigenomic Advice

Fagron genomics

Patient name	Demo1
Date of birth	01-01-1971
Sample code	NUT09624AA
Doctor's name	DOCTOR DEMO
Reception date	17-06-2021
Results date	28-07-2021

How to read and use the Fagron NutriGen™ report

This report is structured into the following sections:

I. General information

Summary of your health habits, including the various factors related to your weight, exercise, metabolism, and key parameters, all related and analyzed by our diagnostic platform.

II. Results overview

Which includes an overview of the genetic analysis, the optimal type of diet, vitamin deficiency risk and the recommended supplements, allowing for a quick and easy global interpretation of the patient's nutrigenomic profile.

III. Personalized Diet Plan

Compiled from your genetic and health/behaviour data. List of foods to avoid and enhance: the nutritional description of 559 foods, beverages and sauces, classified into 17 general categories for easy interpretation and daily use. Food is suggested from the results of the test performed and professional nutritionists.

IV. Complete genetic results

Which includes a complete description of all the analysed SNPs within both at gene and SNP level with detailed descriptions to get the maximum from the test.

Before proceeding with your nutritional and dietary modifications, please read this report carefully and consult your specialist.

I.
General Information

Summary of your health habits, including the various factors related to your weight, exercise, metabolism, and key parameters, all related and analyzed by our diagnostic platform.

Fagron Nutrigen™ studies 384 top-informative DNA variations in 59 different categories summarized in 15 macro categories

1. Morphological genetics in overweight predisposition
2. Behavioural genetics in food intake
3. Efficacy of exercise
4. Fat metabolism
5. Carbohydrate metabolism
6. Lipid metabolism
7. Glucose metabolism
8. Flavour sensitivities
9. Detoxification imbalances
10. Supplementation
11. Intolerance
12. Vitamin deficiency risk
13. Matching Diet Type
14. Hormones
15. Inflammation

Analyzed genetic variations in the Fagron Nutrigen test[1]

ABOUT

Your personalized diet plan and suggested food habits are carefully selected in order to enhance individual strengths and minimize localized genetic deficiencies.

[1] The plot represents a global and not individualized genetic map for informative purposes. Please note that the genes that are analyzed are the same for everyone (men or women), however the results shown in part II may be different. Chromosome Y is not analyzed, therefore the test is useful both for men and women.

Weight related variables

Gender	Male
Age	51 years
Height	180 cm
Current weight	80 Kg
Goal weight	80 Kg
Current BMI	24,69
Goal BMI	24,69
Weight type	Normoweight

ABOUT

* In case of underweight, Obesity Type I, II, III, IV and/or existing pathologies, the results of this test should be evaluated and implemented by a professional.

Physical exercise and metabolism related factors

Daily sport activity	Without activity

- Basal metabolism -

Current (cal)	1.675
Target (cal)	1.675

- Current daily energy expenditure -

Current (Kcal)	2.010
Target (Kcal)	2.010
Variation (Kcal)	0

II.
Results overview

Which includes an overview of the genetic analysis, the optimal type of diet, vitamin deficiency risk and the recommended supplements, allowing for a quick and easy global interpretation of the patient's nutrigenomic profile.

Sample code	NUT09624AA
Reception date	17-06-2021
Results date	28-07-2021
Passed quality control	YES
Passed genotyping quality	YES
Final quality control	YES

Efficacies

CATEGORY	DESCRIPTION	RESULTS
Morphological genetics in overweight predisposition	Medium-high genetic predisposition to being overweight. In case of overweight or obesity, it is caused mainly by inherited genetics. Following the recommendations of this DNA analysis will improve outcomes.	36.43%

Genetic risk of overweight/obesity	MEDIUM-HIGH RISK	Pg. 67
Risk of rebound weight gain	HIGH REBOUND EFFECT	Pg. 68
Risk of increased BMI	MEDIUM-HIGH RISK	Pg. 69
Basal metabolic rate (burn calories at rest)	MEDIUM-LOW BURNER	Pg. 70
Weight loss capability during diet interventions	NORMAL WEIGHT LOSS	Pg. 71

CATEGORY	DESCRIPTION	RESULTS
Behavioural genetics in food intake	Medium-high dysregulation of food intake behaviour. High predisposition to being overweight. Strategies to improve satiety should be considered.	40.4%

Appetite and anxiety risk	INCREASED	Pg. 72
Satiety: Feeling Full	SLIGHTLY LOWER SATIETY	Pg. 73

CATEGORY	DESCRIPTION	RESULTS
Efficacy of exercise	Low-medium efficacy of exercise to reduce body fat and regulate cholesterol levels. Intensive dietary interventions may be the best option.	26.06%

Benefits from endurance exercise for improving HDL levels	VERY LOW EXPECTED BENEFITS FROM EXERCISE	Pg. 74
Exercise to reduce body fat	MEDIUM-HIGH EXPECTED BENEFIT FROM EXERCISE	Pg. 75

INDICATIONS

75% - 100% High efficacy | 50% - 75% Medium-high efficacy | 25% - 50% Medium efficacy | 0% - 25% Low efficacy

Efficacies

CATEGORY	DESCRIPTION	RESULTS
Fat metabolism	Highly negative fat burning capacity. It would be recommended to greatly decrease the fat intake.	17.78%

Response to monosunsaturated fats (MUFAs)	VERY LOW MUFA METABOLISM	Pg. 76
Response to polyunsaturated fats (PUFAs)	MEDIUM PUFA METABOLISM	Pg. 77
Response to fat intake to improve the HDL levels	VERY LOW EXPECTED BENEFITS	Pg. 78

CATEGORY	DESCRIPTION	RESULTS
Carbohydrate metabolism	Moderate carbohydrate metabolism dysregulation. Carbohydrate intake may not be the main reason for being overweight or obese.	62.29%

Capability to digest starchy food	REDUCED STARCH DIGESTION	Pg. 79
Refined carbohydrate sensitivity	NORMAL CARBOHYDRATE SENSITIVITY	Pg. 80
Carbohydrates and HDL levels predisposition	HIGH RISK OF DYSREGULATION	Pg. 81
Carbohydrates and LDL levels	LOW RISK OF DYSREGULATION	Pg. 82

CATEGORY	DESCRIPTION	RESULTS
Lipid metabolism	Moderately affected lipid metabolism. Cholesterol and triglyceride levels should be reasonably normal on a balanced diet.	62.47%

Predisposition to reduced HDL levels	REDUCED HDL LEVELS	Pg. 83
Predisposition to increased levels of triglycerides	TRIGLYCERIDES NOT INCREASED	Pg. 84
Predisposition to increased oxidation of LDL	NOT INCREASED LDL OXIDATION	Pg. 85
Risk of increased cholesterol LDL levels	SLIGHTLY INCREASED LDL LEVELS	Pg. 86
Risk of unbalanced Triglycerides/HDL ratio	HIGHLY INCREASED TG/HDL RATIO	Pg. 87

INDICATIONS

75% - 100% High efficacy | 50% - 75% Medium-high efficacy | 25% - 50% Medium efficacy | 0% - 25% Low efficacy

Efficacies

CATEGORY	DESCRIPTION	RESULTS
Glucose metabolism	Medium-high dysregulation of glucose metabolism. Intake of refined sugar and carbohydrates will be dangerous. High risk of developing Type-II diabetes.	41.43%

Risk of increased glucose levels in plasma after fasting	MEDIUM-HIGH RISK OF HIGH GLUCOSE LEVELS	Pg. 88
Risk of insulin resistance	MEDIUM-LOW INSULIN RESISTANCE	Pg. 89
Risk of Type-II diabetes	MEDIUM-HIGH DIABETES TYPE-II RISK	Pg. 90

CATEGORY	DESCRIPTION	RESULTS
Flavour sensitivities	Normal or average flavour sensitivity.	84.22%

Bitter taste sensitivity	NORMAL	Pg. 91
Salt sensitivity	MEDIUM-LOW SALT SENSITIVITY	Pg. 92
Sweet flavour preference	NORMAL	Pg. 93

CATEGORY	DESCRIPTION	RESULTS
Detoxification imbalances	Slightly reduced detoxification capacities. Try to decrease toxin exposure and intake.	73.19%

Antioxidant capability	SLIGHTLY REDUCED ANTIOXIDANT CAPABILITY	Pg. 94

INDICATIONS

75% - 100% High efficacy | 50% - 75% Medium-high efficacy | 25% - 50% Medium efficacy | 0% - 25% Low efficacy

Risks

CATEGORY	DESCRIPTION
Supplementation	Please find below the different analysed categories related to food supplementation needs.

CATEGORY	DESCRIPTION
Intolerance	Please find below the different analysed categories related to intolerances and sensitivities.

EFFECTIVENESS OF DIETS

- INTEGRATED NUTRITIONAL PLAN (LOW IN CARBOHYDRATES) -

Depending on the specific needs of your body, the optimal type of nutritional plan is determined. It has been defined by our nutritional experts and based on the foods you are better able to metabolize, the genetic information and the available personal health data.

ABOUT

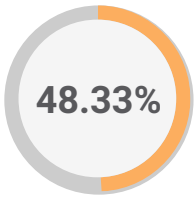
13 genetic variations related to the metabolism of various nutrients are analyzed in this section. This information allow us to develop a personalized plan aimed at improving your eating habits and exercise, that will help you achieve your weight goals, improve your muscle and bone mass, lower the fat mass and maintain a balanced and healthy diet.

Efficacy of low carbohydrate diets

MARKER	RESULTS
KCTD10	
MMAB	

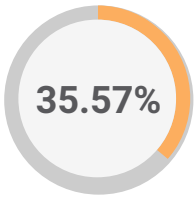
Efficacy of low calorie diets

MARKER	RESULTS
PPAR-Y	
ADIPOQ	
LEPR-1	
ACSL5	
ADRB2	



Efficacy of low fat diets

MARKER	RESULTS
PPAR-Y	
GHSR	
APOA2	
SH2B1-2	
TCF7L2-2	
FTO-1	



ABOUT

Knowing the type of diet that will be more effective to maintain a balanced and healthy diet.

Know the most effective type of diet to maintain your good metabolic balance

INDICATIONS

- High expected benefits from diet
- Medium-High expected benefits from diet
- Medium-Low expected benefits from diet
- Very Low expected benefits from diet

Vitamin deficiency risk

ABOUT

Major genetic variations related to the metabolism of each vitamin are analysed. Possible deficiencies are determined so that our specialists are able to adapt your diet to improve your health and prevent putative diseases related to the lack of vitamins.

VITAMINS	DESCRIPTION	RESULTS
Vitamin A	Low risk of vitamin A deficiency. Ensure daily recommended intake or slightly increase it.	
Vitamin B^6	High risk of vitamin B6 deficiency. Increase daily vitamin B6 intake. Supplementation should be evaluated.	
Vitamin B^9	Low risk of folate deficiency. Ensure daily recommended intake.	
Vitamin B^{12}	Normal vitamin B12 metabolism. Ensure daily recommended intake.	
Vitamin C	Normal vitamin C metabolism and levels. Ensure daily recommended intake.	
Vitamin D	Low risk of Viamin D deficiency. Ensure daily recommended intake.	
Vitamin E	High risk of Vitamin E deficiency. Ensure daily recommended intake. Supplementation strategies would be recommended.	

INDICATIONS

- **Normal** metabolism of vitamin
- **Low risk** of vitamin deficiency
- **Medium risk** of vitamin deficiency
- **High risk** of vitamin deficiency

Vitamin deficiency risk

Results evaluation

Each vitamin is analyzed independently to facilitate their incorporation in the final diet if a genetic defect is detected. The high, medium or low results in this section correspond to a global view of the metabolic status of vitamins. Here we highlight the main consequences of a vitamin deficiency.

Vitamin A

- Infectious diseases
- Vision problems

Vitamin B^6

- Confusion
- Depression
- Canker on mouth and tongue
- Anemia and lack of hemoglobin.

Vitamin B^9

- Fatigue
- Gray hair
- Oral stripes
- Poor growth
- Swelling of the tongue
- Anemia
- In severe cases, deficiency of white blood cells (defenses) and platelets
- It is essential for the development of the spinal cord and brain

Vitamin B^{12}

- Anemia
- Equilibrium loss
- Numbness or tingling in arms and legs

Vitamin C

- Anemia
- Bleeding gums
- Decreased ability to fight infections
- Decreased rate of wound healing
- Dry and splitting hair tufts
- Tendency to hematoma formation
- Gingivitis (gum inflammation)
- Nosebleeds
- Possible weight gain due to slow metabolism
- Rough, dry, scaly skin
- Pain and swelling in the joints
- Weakened enamel of the teeth
- Weakness

Vitamin D

- Osteoporosis
- Reduced cognitive function (mental process that allows us to carry out any task)

Vitamin E

- Neurological symptomes
- Muscular weakness
- Retinal degeneration with potential blindness

Inflammation

CATEGORY	DESCRIPTION
TNF-α	TNF-α is a pro-inflammatory cytokine, strongly linked to many inflammatory conditions, expressed in, and secreted by adipose tissues. Increased levels are associated with obesity-induced inflammation, adiposity and insulin resistance.

• TNF-α-1 — Predisposition to moderately increased levels of TNF-alpha. Pro-inflammation tendency.

CATEGORY	DESCRIPTION
IL-6	IL-6 is an interleukin with mainly pro-inflammatory functions and is commonly used as inflammatory marker. High levels of IL-6 are associated with obesity, insulin resistance and metabolic syndrome.

• IL-6-1 — Predisposition to highly increased levels of IL-6. Pro-inflammation.

CATEGORY	DESCRIPTION
IL-10	IL-10 is a cytokine with potent anti-inflammatory properties.

• IL-10-1 — Predisposition to intermediate levels of the anti-inflammatory cytokine IL-10.

Hormones

CATEGORY	DESCRIPTION
Leptin	Leptin is a hormone which main function is sending a signal to the brain for food intake regulation. Leptin is commonly called the "satiety hormone". Low levels of leptin may imply problems of overeating and/or burning the stored fat. LEP-R is the gene coding for the cellular receptor of the leptin hormone. Its capability to bind leptin and start the cellular signalling is key for the satiety regulation function. Lower leptin binding capability may lead to high possibilities of leptin resistance, overeating and lower fat burning.

• LEP — **Predisposition to lower levels of leptin.**

CATEGORY	DESCRIPTION
Visfatin	Visfatin is an adipokine with an inflammatory and catabolic profile that has been associated with several metabolic risk factors, such as obesity, insulin resistance, and Type-II diabetes.

• NAMPT-1 — **High predisposition to increased levels of circulating visfatin.**

CATEGORY	DESCRIPTION
Ghrelin	Ghrelin is a hormone produced in the gut, often termed "the hunger hormone", since it causes an increase in appetite through its effect in the brain. Imbalances in ghrelin are associated with appetite increase, increased calorie consumption and fat storage.

• GHSR — **Predisposition to normal ghrelin receptor (GHSR) expression.**

CATEGORY	DESCRIPTION
Adiponectin	Adiponectin is a hormone that regulates glucose levels and fatty acid breakdown. Low levels of adiponectin are associated with inflammation, lipid abnormalities and insulin resistance.

• ADIPOQ-2 — **High predisposition to lower adiponectin plasma levels.**

• ADIPOQ-3 — **High predisposition to lower adiponectin plasma levels.**

Supplements

ABOUT

After analyzing your DNA and lifestyle, we have selected food supplements that will help you combat overweight and ageing.
The following color scale shows what we mostly recommend (the length of the green indicating from more to less recommended), and those compounds we do not recommend (from green to red, indicating less recommended) because your body does not need them or potential toxicity.

CLEANING PHASE

- ▶ Magnesium
- ▶ Vitamin C
- ▶ Resveratrol
- ▶ Papain
- ▶ Methionine
- ▶ Quercetina
- ▶ Lysine
- ▶ Taurine
- ▶ Bromelain
- ▶ Brocophanus
- ▶ Vitamin B9 (Methylfolate)
- ▶ Vitamin B6
- ▶ Zinc gluconate
- ▶ Selenium yeast
- ▶ Vitamin D3 (Cholecalciferol)
- ▶ Biointestil
- ▶ Glutamine (levoglutamide)
- ▶ Gutcare
- ▶ Acetylcysteine (N-Acetyl L-Cysteine)
- ▶ Ginseng dry extract

RESTRUCTURING PHASE

- ▶ Magnesium
- ▶ Biotin
- ▶ Imuno TF
- ▶ Glucosamine
- ▶ Resveratrol
- ▶ Vitamin B12
- ▶ Vitamin B9 (Methylfolate)
- ▶ Vitamin B6
- ▶ Vitamin B2 (Riboflavine)
- ▶ Zinc gluconate
- ▶ Vitamin B1 (Thiamine HCl)
- ▶ Niacin

SUPPLEMENTATION PHASE

- ▶ Magnesium
- ▶ Vitamin E
- ▶ Biotin
- ▶ Vitamin A
- ▶ Oxitriptan
- ▶ Valerian dry extract
- ▶ Resveratrol
- ▶ Vitamin B12
- ▶ Vitamin B9 (Methylfolate)
- ▶ Nicotinamide (B3)
- ▶ Vitamin B6
- ▶ Vitamin B2 (Riboflavine)
- ▶ Zinc gluconate
- ▶ Melatonin
- ▶ Vitamin D3 (Cholecalciferol)
- ▶ Vitamin B1 (Thiamine HCl)
- ▶ Vitamin K2
- ▶ Ubiqsome
- ▶ Niacin

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

CLEANING PHASE

Suggested formula:

Detox 1 capsule	
Magnesium	125 mg
Zinc gluconate	16 mg
Resveratrol	50 mg
For 1 capsule No. 20	

Dosage

1 cap /day for 20 days.

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

CLEANING PHASE

Suggested formula:

Detox 2 capsule	
Lysine	34 mg
Taurine	86 mg
Vitamin D3 (Cholecalciferol)	2000 UI
Magnesium	125 mg
Brocophanus	67 mg
Zinc gluconate	16 mg
For 1 capsule No. 20	

Dosage

1 - 2 cap /day for 20 days.

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

CLEANING PHASE

Suggested formula:

Clean capsule	
Papain	2 mg
Resveratrol	50 mg
Quercetina	141 mg
Magnesium	125 mg
For 1 capsule No. 45	

Dosage

3 cap/day with meals for 15 days.

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

RESTRUCTURING PHASE

Suggested formula:

Imuno capsule	
Imuno TF	50 mg
Zinc gluconate	16 mg
Glucosamine	150 mg
For 1 capsule No. 30	

Dosage

3 cap /day - after Cleaning Phase; take before breakfast.

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

RESTRUCTURING PHASE

Suggested formula:

Energy BVit capsule	
Biotin	15 mg
Vitamin B12	3 mcg
Vitamin B9 (Methylfolate)	5 mg
Zinc gluconate	16 mg
Resveratrol	50 mg
Magnesium	265 mg
Vitamin B2 (Riboflavine)	30 mg
For 1 capsule No. 60	

Dosage

1 cap / day - take during lunch, as prescribed (min. 30 days).

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

SUPPLEMENTATION PHASE

Suggested formula:

Capsule to rest	
Melatonin	3 mg
Vitamin B6	1 mg
Zinc gluconate	16 mg
Magnesium	188 mg
Oxitriptan	50 mg
For 1 capsule No. 30	

Dosage

1 cap /day, between 17h00 and 18h00.

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

SUPPLEMENTATION PHASE

Suggested formula:

Energy BVit capsule	
Biotin	15 mg
Vitamin B12	3 mcg
Vitamin B9 (Methylfolate)	5 mg
Zinc gluconate	16 mg
Resveratrol	50 mg
Vitamin B6	1 mg
Magnesium	188 mg
Vitamin B2 (Riboflavine)	30 mg
For 1 capsule No. 60	

Dosage

1 cap / day - take during lunch, as prescribed (min. 30 days).

Signature of the prescribing physician

Dr:

Physician Registration No.

Formulations

Patient name	Demo1	Sample code	NUT09624AA
Date of birth	01-01-1971	Results date	21-03-2022

SUPPLEMENTATION PHASE

Suggested formula:

Fat-soluble vitamins capsule	
Vitamin E	9 mg
Zinc gluconate	16 mg
Resveratrol	50 mg
Vitamin A	2000 UI
For 1 capsule No. 30	

Dosage

1 cap/day - take with breakfast for 30 days.

Signature of the prescribing physician

Dr:

Physician Registration No.

III. Personalized Diet Plan

Made from your genetic and health/behaviour data. List of foods to avoid and enhance: the nutritional description of 559 foods, beverages and sauces, classified into 17 general categories for easy interpretation and daily use. Food is suggested from the results of the test performed by Fagron and professional nutritionists.

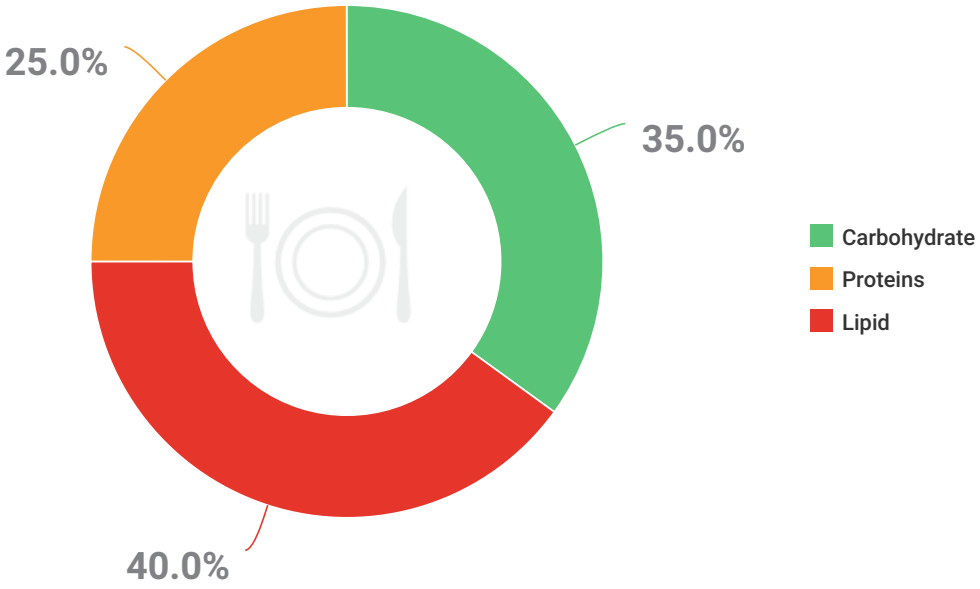
Daily food intake

- INTEGRATED NUTRITIONAL PLAN (LOW IN CARBOHYDRATES) -

From the combination of your genetic results with your health information and your current habits, our nutrition experts have determined that your body will respond better and you will get better results with a INTEGRATED NUTRITIONAL PLAN (LOW IN CARBOHYDRATES).

Your nutritional plan includes the following types of food

1. Vegetables
2. Legumes and derivatives
3. Fruits and derivatives
4. Cereals and derivates
5. Fish and derivatives
6. Meats and derivatives
7. Nuts and seeds
8. Shellfish and derivatives
9. Eggs and derivatives
10. Milk and derivatives
11. Oils and fats
12. Tubers and derivatives
13. Sauces and condiments
14. Sugars and derivatives
15. Snacks
16. Non-alcoholic beverages
17. Alcoholic beverages



ABOUT

From the results obtained in the analysis, **your dietary habits** and your general information, our genetic and nutritionist adviser team have determined a **personalized plan** with **nutritional** and **dietetic** recommendations.

Make the 3 main meals of the day and in their hours

Make 2 small snacks of fruit and nuts according to recommendations: 11am - 5pm

Drink natural water 1.5 - 2 l / day before and between main meals

Daily food intake

Recommendation

- Allowed, adjusting the amounts and / or frequency *
- Allowed without raising the recommended quantities and / or frequency *
- Reduce the amount and / or frequency *
- Restrict, occasionally / in small quantities *

*Observations on recommended foods are a suggestion based on the genetic findings. The results should be evaluated by a professional and accurately adapted to the clinical history, blood analyses, fitness, eating habits, exercise, medication and psychological status.

Indications

On the food table, we have incorporated **specific symbols for the reported pathologies, intolerances or vitamin deficiencies based on the data included in the clinical questionnaires** . When several foods from a category have a similar level of recommendation, those symbols will help you decide whether they will have a positive effect or negative impact in the diet plan. Find below the list of the symbols.

Recommended Avoid consumption

- Caffeine intolerance
- Fructose intolerance
- Gluten intolerance
- Lactose intolerance
- Alcohol
- Carbohydrate
- Lipid
- Fat
- Asthaxanthin intolerance
- Carrot intolerance
- Egg intolerance
- Figs intolerance
- Galactose intolerance
- Ginger intolerance
- Tomato intolerance
- Monounsaturated Fatty Acids (MUFAs)
- Polyunsaturated Fatty Acids (PUFAs)
- Starch
- Glucose
- Salt
- Kiwi intolerance
- Nuts intolerance
- Papaya intolerance
- Pineapples intolerance
- Cow-milk protein intolerance
- Seafood intolerance
- Soya intolerance
- A Vitamin A
- B6 Vitamin B6
- B9 Vitamin B9
- B12 Vitamin B12
- C Vitamin C
- D Vitamin D
- E Vitamin E
- Antioxidant
- Satiety
- Fe Iron
- Mg Magnesium
- Ca Calcium
- Se Selenium

Vegetables

FOOD	Indications
Turnip greens	A B6 B9 C E Ca
Spinach, boiled	A B6 B9 E Fe Ca Mg
Chicory	A B9 C E Ca
Red pepper	A B6 B9 C Ca
Red cabbage, boiled	B6 B9 C Ca
Leek, frozen	B6 B9 Ca
Chard	A B9 C E Ca Mg
Chard, boiled	A B9 C E Fe Ca Mg
Mushroom	B9 Ca Se
Brussels sprout, frozen	B9 C Ca
Savoy cabbage	B9 C Ca

FOOD	Indications
Endive	B9 Ca
Spinach, canned	A B9 C E Fe Ca Mg
Green bean, boiled	B9 Ca
Lettuce	A B9 Ca
Mushroom, griddle	B9 Ca Se
Pumpkin, boiled	A B9 Ca
Garlic	B6 B9 C Ca Se
Watercress	A B9 C Ca
Broccoli, boiled	B9 C Ca
Courgette	B9 C Ca
Courgette, roasted	B9 Ca

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Vegetables

FOOD	Indications
Cabbage, white	B9 C Ca
Cauliflower, boiled	B9 C Ca
Asparagus, green	B9 Fe Ca
Cabbage	B9 C Ca
Lombard	B9 C Ca
Corn, on the cob	B9 Ca
Turnip, peeled	B9 Ca
Cucumber	B9 Ca
Radish	B9 C Ca
Tomato	B9 C Ca
Onion	B9 Ca

FOOD	Indications
Chive	A B9 C Ca
Carrot	A B9 Ca
Artichoke, frozen	Ca B9
Arugula	B9 C Ca
Celery	B9 Ca
Tomato, ripe, peeled and ground, canned	B9 C Ca
Soybean, sprouts, canned	B9 Ca Mg
Garlic, fried	B6 B9 C Ca Se
Palm heart, canned	Fe B9 Ca
Cardoon	Ca B9
Green bean, canned	Ca B9

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Vegetables

FOOD	Indications
Onion, roasted	Ca B9
Sweet pepper, canned	C B9 Ca
Pepper, fried	A B6 B9 C E Ca
Caper	Ca B9
Asparagus, white, canned	C B9 Ca
Artichoke, tinned	Ca B9

FOOD	Indications
Aubergine	B9 Ca
Mushrooms, canned	Ca B9
Escarole	B9 Ca
Tomato, roasted	B9 C Ca
Aubergine, fried, in sunflowerseed oil	B9 Ca Se FAT
Pickled gherkin	B9 Ca

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Legumes and derivatives

FOOD	Indications
Lentil, boiled	B9 Fe Ca
Pinto bean, steeped, boiled	B6 B9 Ca
Broad bean, dried, steeped, boiled	B9 Ca
Chickpea, canned	B6 B9 Ca
Pea, frozen, boiled	B9 Ca
White bean, boiled	B9 Fe Ca Mg
Pea, canned	Ca B9
Chickpea, boiled	B9 Fe Ca

FOOD	Indications
White bean, tinned	B9 Fe Ca Mg
Soybean, dry, soaked, boiled	B6 B9 Fe Ca Mg FAT
Lentil, canned	B9 Fe Ca FAT
Tofu	Fe B9 Ca Se
Broad bean, fried	B9 Ca FAT
Soya, fried	B9 Ca Mg FAT
Soy flour	B6 B9 E Fe Ca Mg FAT

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Fruits and derivatives

FOOD	Indications
Raspberry	B9 C Ca
Chayote	B9 Ca
Strawberry	B9 C Ca
Lime	B9 C Ca
Quince	B9 C Ca
Medlar, with skin	B9 Ca
Pineapple, canned, extra heavy syrup pack, solids and liquids	B9 Ca
Black currant	C Ca
Avocado	B6 B9 E Ca FAT
Custard apple	C Ca
Melon	B9 C Ca

FOOD	Indications
Grapefruit	B9 C Ca
Watermelon	B9 Ca
Red grape	B9 C Ca
Olive	B9 E Ca FAT
Red currant	B9 C Ca
Pear	B9 Ca
Apricot	B9 Ca
Yellow plum, with skin	B9 Ca
Peach	B9 Ca
Orange	B9 C Ca
Nectarine	B9

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Fruits and derivatives

FOOD	Indications
Papaya, without skin	B9 C Ca
Pineapple	B9 C Ca
White grapes	B9 C Ca
Coconut	B9 Fe Ca Se FAT
Kiwi	B9 C Ca
Banana	B9 B6 Ca
Coconut, dried	B6 B9 Fe Ca Mg Se FAT
Maracuja - Passion Fruit	B9 C Ca
Olive, black, with pip	Fe Ca FAT
Persimmon	Ca B9
Pomegranate	Ca B9

FOOD	Indications
Blueberry	B9 Ca
Cherry	Ca B9
Guava, canned in syrup	C B9 Ca
Figs	Ca B9
Litchis	C B9 Ca
Fruit salad, canned in own juice	Ca B9
Tangerine	C B9 Ca
Mango, without skin	C B9 Ca
Apple	Ca B9
Syrup peach	B9
Pear, canned, in syrup	Ca B9

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Fruits and derivatives

FOOD	Indications
Pineapple, canned, in juice	Ca B9
Plum, canned	Ca B9
Date	B9 Ca

FOOD	Indications
Peach, dried	Fe Ca
Raisin	Ca B9
Fruit paste	C B9 Ca

- Allowed, adjusting the amounts and / or frequency
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- Restrict, occasionally / in small quantities

Cereals and derivates

FOOD	Indications
Quinoa	B6 B9 E Fe Ca Mg Se FAT
Corn starch	B6 B9 Fe Ca Mg Se
Barley	B6 B9 Fe Ca Mg Se
Rye	B6 B9 Fe Ca Mg Se
Barley flour	B6 B9 Fe Ca Mg Se
Rye flour	B6 B9 Fe Ca Mg Se
Wheat, bran	B6 B9 Fe Ca Mg Se
Corn flour	B6 B9 Fe Ca Mg Se
Millet	B6 B9 Fe Ca Mg
Wholewheat flour	B9 Fe Ca Mg Se
Whole bread, toasted	B6 B9 Fe Ca Mg Se

FOOD	Indications
Wheat flour	B9 Fe Ca Se
Pasta, homemade, made with egg, cooked	B9 Ca
Oat	B9 Fe Ca Mg Se FAT
Wholewheat bread	B6 B9 Fe Ca Mg Se
White bread, without salt	B9 Fe Ca Se
White bread, toasted, without salt	B9 Fe Ca Se
Crackers, melba toast, wheat	B9 Fe Ca Se
Pasta, whole, cooked	Ca B9 Se
Egg-free pasta	B9 Ca
Rye bread	Fe B9 Ca Se
Rice, boiled	Ca B9

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Cereals and derivates

FOOD	Indications
Rice, brown, cooked, no added fat	Ca, B9
Flax, seeds	B6, B9, Fe, Ca, Mg, Se, FAT, Omega-3
Crackers	B9, Fe, Ca, Se, FAT
Wheat germ	B6, B9, E, Fe, Ca, Mg, Se, FAT
Bread, white wheat	B9, Fe, Ca, Se
Oat flour	B9, Fe, Ca, Mg, Se, FAT
Barley bread	Fe, B9, Ca, Se
White bread	Fe, B9, Ca, Se
White bread, toasted	Fe, B9, Ca, Se
Breadcrumbs	B9, Fe, Ca, Se, FAT
Cereal, puffed wheat, sweetened	A, B6, B9, B12, C, D, Ca, Mg, Se

FOOD	Indications
Oat bread	Fe, B9, Ca, Se
Cereal, frosted oat cereal with marshmallows	A, B6, B9, B12, C, D, Fe, Ca, Se
Cereal (Kellogg's Apple Jacks)	A, B6, B9, B12, C, D, Fe, Ca
Cereal, frosted corn flakes	A, B6, B9, B12, C, D, Fe, Ca
Burguer bread	Fe, B9, Ca, Se
Corn bread	B9, Fe, Ca, Se, FAT
Cereal (Kellogg's Rice Krispies Treats Cereal)	A, B6, B9, B12, C, D, Fe, Ca
Cereals ready-to-eat, POST, GREAT GRAINS Crunchy Pecan Cereal	A, B6, B9, B12, D, Fe, Ca, Mg, Se, FAT
Cereal (Kashi GOLEAN)	B9, Fe, Ca, Mg, Se
Granola	B9, Fe, Ca, Mg, Se, FAT
Wheat cereal, chocolate flavored, cooked	B9, Ca, Se

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Cereals and derivates

FOOD	Indications
Milk bread	B9 Fe Ca Se
Pasta, filled with meat, boiled	B9 B12 Ca Se
Puff pastry	B9 Fe Ca Se
Raisin pudding	B9 D Ca Se
Sponge cake	B9 Fe Ca Se
Fruit cake	B9 Ca
Cookie, chocolate, with icing or coating	B9 E Fe Ca Se
Cookies, Marie biscuit	B9 Se
Chocolate cake	B9 Fe Ca
Croissant with chocolate	A B9 Fe Ca Se

FOOD	Indications
Cookie, with chocolate	B9 E Fe Ca
Muffin	B9 Ca Se
Croissant	A B9 Ca Se
Doughnut, with chocolate	B9 Fe Ca Se
Cookie, digestive type, with chocolate	Ca
Biscuit, fruit jam filled, comercial	
Cruller	B9 Fe Ca Se
Doughnut	B9 Fe Ca Se
Applesauce cake, with icing or filling	B9 Ca

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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Fish and derivatives

FOOD	Indications
Tuna	B6 B9 B12 D Ca Se
Cod	B6 B9 B12 D Ca Se
Halibut	B6 B9 B12 D Ca Se
Monkfish, grilled	B6 B9 B12 Ca Se
Tuna, baked	B6 B9 B12 D Ca Se
Tuna, canned in water	B6 B9 B12 D Ca Se
Pout	B6 B9 B12 Ca Se
Grouper, griddle	B6 B9 Ca Se
Seabass	B6 B9 D Ca Se
Whiting, frozen	B9 B12 D Ca Se
Cod, smoked	B9 B12 D Ca Se

FOOD	Indications
Pike, baked	B9 B12 D Ca Se
Perch	B9 B12 D Ca Se
Swordfish	B6 B9 B12 D E Ca Se FAT
Mullet	B6 B9 D Ca Se
Trout, smoked	A B6 B9 B12 D E Ca Se FAT
Tuna, griddle	B6 B9 D Ca Se
Cod, fresh, baked	B12 B9 Ca Se
Sea bream	B6 B9 B12 D Ca Se
Perch, baked	B9 B12 D Ca Se
Trout	B6 B9 B12 D E Ca Se FAT
Codfish, fried	B12 B9 Ca Se

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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Fish and derivatives

FOOD	Indications
Salmon	B6 B9 B12 D Ca Se
Caviar	A B6 B9 B12 D E Fe Ca Mg Se
Sole, baked	B9 B12 D Ca Se
Smoked salmon	B6 B9 B12 D Ca Se
Flounder, steamed	B9 B12 D Ca Se
Anchovy in vegetable oil	B9 B12 D E Fe Ca Mg Se
Herring, salted	B6 B9 D E Fe Ca Mg Se
Whiting	B6 B9 D Ca Se
Mackerel, baked	B6 B9 B12 D E Ca Mg Se
Carp, baked	B6 B9 B12 D Ca Se
Dogfish	B6 B9 B12 D Ca Mg Se

FOOD	Indications
Swordfish, griddle	B6 B9 B12 D E Ca Se
Turbot	Ca B9 Se
Salmon, griddle	B6 B9 B12 D Ca Se
Sardine, roasted	B6 B9 B12 D E Fe Ca Mg Se
Anchovy cooked	B9 B12 D E Fe Ca Mg Se
Hake	B6 B9 B12 Fe Ca Mg Se
Ray	B6 B9 B12 Ca Mg Se
European eel, baked	A B9 B12 D E Ca Se
Europan eel, boiled	A B9 B12 D E Ca Se
Anchovy	B9 B12 Fe Ca Se
Mackarel	B6 B9 B12 D Ca Mg Se

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Fish and derivatives

FOOD	Indications
Mackerel, canned in oil, drained	A B9 B12 D Ca Se
Herring, smoked	B6 B9 B12 D Ca Se
Sardine	B9 B12 D E Fe Ca Se
Sardine, canned in oil, drained	B9 B12 D E Fe Ca Se

FOOD	Indications
Fish, tuna, light, canned in oil, drained solids	B9 B12 D Ca Se
Tuna, canned, oil pack	B9 B12 D Ca Se
Iridescent shark	B9 B12 Ca Se
Sardine canned in tomato sauce	B9 B12 D Fe Ca Se

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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Meats and derivatives

FOOD	Indications
Turkey, breast, without skin, grilled	B6 B9 B12 Ca Se
Cured beef	B6 B9 B12 Fe Ca Se
Liver, pork	A B6 B9 B12 C Fe Ca Se
Turkey	B6 B9 B12 Ca Se
Chicken luncheon meat	B9 B6 Ca Se
Chicken, fried	B9 B6 Ca Se FAT
Ostrich, sirloin	B6 B9 B12 Fe Ca Se
Beef, heart, cooked	B6 B9 B12 Fe Ca Se
Liver, beef	A B6 B9 B12 D Fe Ca Se FAT
Pork, loin	B12 B6 Ca Se FAT
Beef, part n/s, roasted, with separable fat	B6 B9 B12 Fe Ca Se

FOOD	Indications
Chicken, breast, grilled	B6 B9 Ca Se FAT
Heart, chicken	B6 B9 B12 Fe Ca FAT
Liver, chicken	A B6 B9 B12 C Fe Ca Se FAT
Turkey luncheon meat	B9 B6 Ca Se
Turkey, leg, with skin	B6 B9 Fe Ca Se FAT
Turkey, breast, with skin	B9 B6 Ca Se FAT
Chicken, leg, with skin, roasted	B6 B9 B12 Ca Se FAT
Veal, rib, with separable fat	B6 B9 B12 Ca Se FAT
Pork, rib	B12 B6 Ca Se FAT
Pork, sirloin, roasted	B12 B6 Ca Se FAT
Ham, roasted	B12 B6 Ca Se FAT

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- Restrict, occasionally / in small quantities

Meats and derivatives

FOOD	Indications
Cured ham	B6 B9 B12 D Ca Se Salt Fat
Chicken, breast, with skin	B6 B9 Ca Se Salt Fat
Turkey or chicken sausage, reduced sodium	B6 B9 Se Salt Fat
Pigeon, part n/e, without skin, roasted	B6 B9 B12 Fe Ca Se Fat
Veal, sirloin, roasted, with separable fat	B6 B9 B12 Ca Se Fat
Pork, chop	B6 B12 Ca Se Salt Fat
Pork, loin, roasted	B6 B9 B12 D Ca Se Salt Fat Muscle
Chorizo	B6 B9 B12 D Fe Ca Se Salt Fat Muscle
Heart, lamb	B9 B12 Fe Ca Se Fat
Cooked ham	B6 B9 B12 D Ca Se Salt Fat Muscle
Pork, shoulder, cooked, lean and fat eaten	B6 B9 B12 D Ca Se Salt Fat Muscle

FOOD	Indications
Cured pork, loin	B6 B9 B12 Ca Se Fat Muscle
Quail, cooked	B6 B9 Fe Ca Se Salt Fat
Chicken, wing, with skin	B6 B9 Ca Se Fat Muscle
Chicken, with skin, roasted	B6 B9 Ca Se Fat Muscle
Veal, loin, with separable fat	B6 B9 B12 Ca Se Fat Muscle
Beef, sirloin, grilled	B6 B9 B12 Fe Ca Se Fat Muscle
Salchichon	B6 B9 B12 C D Ca Se Salt Fat Fish
Mincemeat	B6 B9 B12 Fe Ca Se Salt Fat Muscle
Rabbit, stewed	B6 B9 B12 Ca Se Salt Fat Muscle
Hen	B6 B9 Ca Se Salt Fat Muscle
Cooked ham, canned	B6 B9 B12 Ca Se Salt Fat Muscle

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Meats and derivatives

FOOD	Indications
Oxtail	B6 B9 B12 Fe Ca Se
Salami	B6 B12 D Ca Se
Beef, part n/s, stewed, with separable fat	B6 B9 B12 Fe Ca Se
Bacon, smoked, grilled	B6 B12 Ca Se
Bacon	B6 B12 Ca Se
Pork sausage	B9 B12 D Ca Se
Sausage	B9 B12 D Ca Se
Blood sausage, fried	B9 B12 D Fe Ca Se
Bologna	B9 B12 D Ca Se
Pork and beef sausage	B9 B12 D Ca Se
Sausage, smoked link sausage, pork	B9 B12 D Ca Se

FOOD	Indications
Liver sausage, liverwurst, pork	A B9 B12 Fe Ca Se
Foie gras	A B9 B12 Fe Ca Se
Lamb, rib	B9 B12 Ca Se
Lamb, not specified part	B9 B12 Ca Se
Duck, roasted	B9 Fe Ca Se
Pork luncheon meat	B9 B12 Ca Se
Polish sausage, pork	B9 B12 Ca Se
Chicken croquettes	B9 Ca Se
Breaded chicken, fried	Ca Se
Pork, not specified part	B9 Ca
Sausage, fresh	B6 B9 B12 Ca

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Nuts and seeds

FOOD	Indications
Sunflower seeds	B6 B9 E Fe Ca Mg Se FAT
Lupin	B6 B9 Fe Ca Mg Se FAT
Hazelnut	B6 B9 E Fe Ca Mg FAT
Peanut, toasted, salted	B6 B9 E Ca Mg Se
Sunflower seeds, peeled, with salt	B6 B9 E Fe Ca Mg Se FAT
Almond	B9 E Fe Ca Mg FAT
Almond, toast	B9 E Fe Ca Mg FAT
Walnut	B6 B9 Fe Ca Mg FAT
Sesame, seed	B6 B9 Fe Ca Mg Se FAT

FOOD	Indications
Pine nut	B9 E Fe Ca Mg FAT
Pumpkin seeds	B9 Fe Ca Mg Se FAT
Almond, fried, salted	B9 E Fe Ca Mg FAT
Peanut, fried, salted	B6 B9 Fe Ca Mg FAT
Cashew nut	B6 B9 Fe Ca Mg Se FAT
Pistachio nut	B6 B9 E Fe Ca Mg Se FAT
Chestnut	B6 B9 C Ca
Chestnut, roasted	B6 B9 C Ca

- Allowed, adjusting the amounts and / or frequency
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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Shellfish and derivatives

FOOD	Indications
Cuttlefish	A B6 B9 Fe Ca Mg Se
Crab	B9 B12 E Ca Se
Octopus, boiled	B6 B9 B12 Fe Ca Se
Clams	B9 B12 Ca Se
Cockles	Fe Ca
Lobster, boiled	B12 B9 Ca Se
Crayfish	B12 B9 Ca Se
Shrimp, boiled	B12 B9 Ca Se
Scallop	B12 B9 Ca Se

FOOD	Indications
Squid, roasted	B12 B9 Ca Se
Squid in vegetable oil	B9 B12 E Ca Se FAT
Snail	B9 B12 E Fe Ca Mg Se FAT
Mussel, canned in brine	B9 B12 C Fe Ca Mg Se
Mussel, boiled	B9 B12 C Fe Ca Mg Se
Mollusks, blue mussel, cooked, moist heat	B9 B12 C Fe Ca Se
Oyster	B9 B12 Fe Ca Mg Se
Variegated scallop	B9 B12 Ca Mg Se FAT

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Eggs and derivatives

FOOD	Indications
Egg, chicken, yolk	A B6 B9 B12 D E Fe Ca Se FAT
Egg, duck	A B6 B9 B12 D Fe Ca Se FAT
Egg, quail	A B9 B12 D Fe Ca Se FAT
Egg, chicken, white	A B9 B12 D Ca Se FAT
Egg, chicken, poached	A B9 D Ca Se FAT

FOOD	Indications
Egg, chicken, boiled	A B9 B12 D Ca Se FAT
Egg, chicken, fried	A B9 B12 D Ca Se FAT
Egg, turkey	A B9 B12 Fe Ca Se FAT
Egg, scrambled, with butter	A B9 B12 D Ca Se FAT

- Allowed, adjusting the amounts and / or frequency
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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Milk and derivatives

FOOD	Indications
Milk, lactose free, reduced fat (1%)	B9 B12 D Ca
Almond milk	B9 D E Ca
Soy Yoghurt	Ca B9 Se FAT
Cream cheese spread, fat free	B12 B9 Ca
Greek yoghurt, plain	B12 B9 Ca Se FAT
Coconut milk	D B12 Ca FAT
Liquid yoghurt	B9 B12 D Ca
Nutritional drink or shake, liquid, soy-based	B6 B9 B12 C D E Ca FAT
Kefir	A B9 D Ca
Milk, skimmed, pasteurized	B9 B12 D Ca
Milk, semi-skimmed, pasteurized	FAT B9 B12 D Ca

FOOD	Indications
Cottage cheese	B9 B12 Ca Se
Yoghurt, skimmed, vanilla flavour	B9 B12 D Ca
Egg custard	FAT B6 B9 B12 Ca Se
Cheese Feta	FAT A B6 B9 B12 Ca Se
Milk	FAT B12 D Ca
Brie cheese	FAT A B6 B9 B12 Ca Se
Camembert cheese, 20-30% fidm	FAT A B6 B9 B12 Ca Se
Goat's milk	FAT B9 D Ca
Sheep's milk	FAT B9 Ca
Yoghurt mousse, plain	B9 Ca
Fresh cheese	FAT A B9 B12 D Ca Se

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Milk and derivatives

FOOD	Indications
Cheese, fresh, queso fresco	A B9 B12 D Ca Se
Blue cheese	A B9 B12 Ca Se
Cheddar cheese	A B9 B12 Ca Se
Gouda cheese	A B9 B12 Ca Se
Mozzarella cheese	A B9 B12 Ca Se
Parmesan cheese	A B9 B12 Ca Se
Grated cheese, parmesan	A B9 B12 Ca Se
Cheese fondue	A B9 B12 Ca Se
Goat cheese, cured	A B9 Ca
Cheese, edam type	A B9 B12 Ca Se
Goat cheese, uncured	A B9 Ca

FOOD	Indications
Gruyere cheese	A B9 B12 Ca Se
Roquefort cheese	A B9 Ca Se
Drinking yoghurt, plain, sweetened	B9 B12 D Ca
Yoghurt, skimmed, plain flavour	B9 B12 D Ca
Strawberry ice cream	B9 Ca
Emmental cheese	A Ca
Drinking Yoghurt, skimmed, plain	B9 Ca
Cheese spread	A B9 B12 Ca
Cream, half and half	B9 Ca
Yoghurt mousse, with fruits	B9 D Ca
Yogurt parfait, low fat, with fruit and granola	B6 B9 B12 C Ca

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Milk and derivatives

FOOD	Indications
Processed cheese, portions	A B9 B12 D Ca Se
Drinking Yoghurt, milk, with fruits	B9 D Ca
Yoghurt , skimmed, flavoured n/e	B9 B12 D Ca
Yoghurt, skimmed, with fruits	B9 B12 D Ca
Yogurt, NS as to type of milk, fruit (contain jams)	B9 B12 D Ca
Cream cheese spread, light	A B9 B12 Ca
Yogurt, greek, strawberry, low fat	B9 B12 Ca Se
Milk, semi-skimmed, dried	A B6 B9 B12 D Ca Mg Se
Dessert, custard pudding, vanilla, strained	B9 Ca
Swiss spread cheese	A B9 B12 Ca Se

FOOD	Indications
Frozen yogurts	B9 Ca
Yogurt, with fruit and multigrain cereal puree	B9 Ca
Milk shake, chocolate	B9 Ca
Frozen yogurts, vanilla, soft-serve	B9 Ca
Chocolate mousse	A B9 B12 Ca
Milk shake, flavors other than chocolate	Ca
Milk, condensed, with sugar	B9 B12 Ca Se
Milk, canned, condensed, sweetened	B9 B12 Ca Se
Chocolate ice cream	B9 Ca
Cream ice cream	B9 B12 Ca

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Oils and fats

FOOD	Indications
Wheat germ oil	E
Sunflower oil	E
Olive oil	E
Extra virgin olive oil	E
Extra virgin olive oil, organic	E
Palm oil	E
Planta vegetable fat	E
Peanut oil	E
Rape oil	E
Soya, oil	E

FOOD	Indications
Coconut oil	
Cod liver oil	A D
Margarine, light	A B9 D E Ca
Flaxseed oil	
Pork lard	D
Mayonnaise light	B9 E Ca
Walnut oil	
Sesame oil	
Butter with salt	A B9 Ca
Butter, light	A B9 Ca

- Allowed, adjusting the amounts and / or frequency
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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Tubers and derivatives

FOOD	Indications
Sweet potato	A B9 Ca
Potato, cooked, fat added	B6 B9 C Ca Se
Potato, roast	B9 B6 C Ca
Potato, boiled	B9 B6 C Ca

FOOD	Indications
Potato, prefried, frozen	C B9 Ca Se
Potato, fried in unspecified oil, without salt	B6 B9 Ca FAT
Beetroot, canned	Ca B9

- Allowed, adjusting the amounts and / or frequency
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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Sauces and condiments

FOOD	Indications
Chili or hot pepper	B6 B9 C E Ca
Mint, fresh	A B9 C Fe Ca Mg
Oregano, dried	B6 B9 E Fe Ca Mg
Cinnamon, powder	B9 E Fe Ca Mg
Garlic, powder	B6 B9 Fe Ca Mg Se
Parsley, fresh	A B9 C Fe Ca
Ginger	B9 Ca
Black pepper	B6 B9 Fe Ca Mg
Basil	A B9 C Fe Ca Mg
Fennel	B9 Ca
Rosemary	A B6 B9 C Fe Ca Mg FAT

FOOD	Indications
Apple vinegar	Ca
Wine vinegar	Ca
Thyme, dried	A B6 B9 C E Fe Ca Mg FAT
Chili pepper, red	B6 B9 C Ca
Chili pepper, green	B6 B9 C Ca
Sauce, peppers, hot, chili, mature red, canned	B9 C Ca
White pepper	B9 C Fe Ca Mg
Bay, leaf	A B6 B9 C Fe Ca Mg FAT
Soya, sauce	Ca B9 Mg
Dill, dried	A B6 C Fe Ca Mg
Sea salt	Ca

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- Restrict, occasionally / in small quantities

Sauces and condiments

FOOD	Indications
Iodized salt	Ca, Salt
Saffron	B6, B9, C, Fe, Ca, Mg, Salt, Fat
Curry	Brain, B9, E, Fe, Ca, Mg, Se, Fat
Cumin	Brain, B6, B9, E, Fe, Ca, Mg, Salt, Fat, Nuts
Tahini	Brain, B9, Fe, Ca, Mg, Se, Fat, Nuts, Fish
Pesto sauce	B9, E, Ca, Mg, Salt, Fat, Nuts
Mustard	B9, Ca, Se, Salt, Fat, Nuts
Tabasco, sauce	B9, Ca, Salt, Fish
Curry sauce	B9, E, Ca, Salt, Fat, Nuts, Fish
Nutmeg	Brain, B9, Fe, Ca, Mg, Fat
Fried green tomatoes	B9, Ca, Se, Salt, Fat, Nuts, Fish

FOOD	Indications
Peppers, hot chile, sun-dried	Brain, A, B6, B9, C, E, Fe, Ca, Mg, Fat, Grain, Sugar
Gomasio	Brain, B9, Fe, Ca, Mg, Se, Salt, Fat, Nuts, Fish
Tomato chili sauce	B9, C, E, Ca, Salt, Grain
Vanilla	Ca, Grain
Balsamic vinegar	Ca, Grain
Sweet and sour sauce	Ca, B9, Grain, Sugar
Paprika, powder	Brain, A, B6, B9, E, Fe, Ca, Mg, Fat, Grain, Sugar
Ketchup	B9, Ca, Salt, Grain, Sugar
Barbecue sauce	B9, Ca, Salt, Grain, Sugar
Vinaigrette sauce, with olive oil	E, Ca, Salt, Fat, Grain, Fish
Bechamel sauce	Milk, Salt, Fat, A, B9, B12, D, Ca

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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Sauces and condiments

FOOD	Indications
Roquefort sauce	B9, E, Ca
Bolognese sauce	A, C

FOOD	Indications
Cheese sauce	B9, Ca
Cheese sauce mix, dry	B9, B12, Ca

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Sugars and derivatives

FOOD	Indications
Nougat, alicante type	E B9 Ca
Sugar, brown	Ca B9
Jelly	Ca B9
Marmalade, strawberry, light	C B9
Honey	Ca B9
Sugar, white	
Chewing gum	
Marmalade, strawberry	Ca B9
Marmalade, orange	Ca B9
Liquorice	Ca
Soluble cocoa, with sugar, powder	B6 B9 C Ca

FOOD	Indications
Custard	B9 B12 D Ca
Chocolate and cream pudding	B9 Ca
Chocolate, bitter, with almonds	B9 E Fe Ca Mg
Chocolate with milk and almonds	B9 B12 E Ca Mg
Chocolate bitter, with sugar	B9 Fe Ca Mg
Chocolate, bitter	Fe Ca Mg Se
Chocolate paste with hazelnuts	B9 Fe Ca Mg
Milk chocolate	B9 Fe Ca Mg
Chocolate bar, type kit kat	B9 B12 Ca
Chocolate	B9 Fe Ca Mg
White chocolate	B9 B12 Ca

- Allowed, adjusting the amounts and / or frequency
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- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Sugars and derivatives

FOOD	Indications
Chocolate, milk, with nuts, not almond or peanuts	B9 B12 Fe Ca Mg

Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Restrict, occasionally / in small quantities

Snacks

FOOD	Indications
Pop corn	B6 B9 E Ca Mg
Corn chips	B9 E Ca Mg

FOOD	Indications
Butter cookie	A B9 Fe Ca Se

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Non-alcoholic beverages

FOOD	Indications
Carrot, fresh juice	A B6 B9 Ca
Lemon juice, fresh	B9 C Ca
Coffee, substitute, instant	B6 B9 Fe Ca Mg Se
Tap water	Ca
Mineral water	Ca
Sparkling water, bottled	Ca
Soft drink, carbonated, orange flavoured	Ca
Tomato, fresh juice	C B9 Ca
Sport drink	
Orange juice	B6 B9 C
Soy milk	B12 B9 D Ca FAT

FOOD	Indications
Non-alcoholic beer	B9 Ca
Pineapple juice	B9 C Ca
Soft drink, tonic water type	
Carbonated drink, lemon	
Blackcurrant juice	C Ca
Apple juice	Ca
Grapefruit juice	B9 C Ca
Lemonade	B9
Soda	Ca
Cranberry juice	Ca C
Fruit juice	Ca C

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Non-alcoholic beverages

FOOD	Indications
Infusion, tea, herbal	B9
Coffee, seed or powder, decaffeinated	
Coffee, brewed, decaffeinated	
Tea, without sugar	
Coffee infusion, with milk	B9 Ca
Coffee, powder	Fe Ca Mg Se

FOOD	Indications
Soluble coffee, powder	B9
Coffee, brewed	B9
Tea infusion, with milk	B9 Ca
Energy drink	B6 B12 Ca
Soft drink, orange flavoured, non carbonated	
Soluble cocoa, with sugar, powder, light	B9 Ca Mg

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

Alcoholic beverages

FOOD	Indications
Sparkling wine, cava type	B9 Ca
Beer	B9 Ca
Beer, low alcohol	B9 Ca
White wine	B9 Ca
Wine, rose	B9 Ca
Red wine	B9 Ca
Cognac	
Gin	

FOOD	Indications
Rum	
Tequila	
Vodka	
Whisky	
Sidra	B9 Ca
Sangria	B9 Ca
Fruit liqueur	

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
- Reduce the amount and / or frequency
- Restrict, occasionally / in small quantities

How to **customize your** diet

- Choose food to replace
- Look at the food table of the selected food group
- See the recommended amount of the new food in the Food equivalences
- Replace the food selected by an equivalent that has a higher score
- Continue enjoying your Fagron Nutrigen™ plan and be constant

You can do it.

IV.
Complete genetic results

Which includes a complete description of all the analysed SNPs within both at gene and SNP level with detailed descriptions to get the maximum from the test

Genetic risk of overweight/obesity

- MEDIUM-HIGH RISK -

ABOUT

Key genetic predisposition genes to obesity and weight gain are analysed. Obesity is influenced by the interplay between external factors (such as diet and/or physical activity) and is highly linked to individual genetics. Genetics highly determine how the body processes or metabolizes fats and/or nutrients. Therefore, understanding our own genetics is important to control obesity and as a key weight reduction tool.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
MC4R-1	rs2229616	CC	HIGH	Higher risk of obesity. High predisposition to increased glycosylated hemoglobin (increased risk of type 2 diabetes) and decreased HDL-cholesterol levels.
SH2B1-2	rs7498665	AA	LOW	Normal risk of obesity.
FTO-1	rs9939609	AT	MEDIUM	Predisposition to obesity, related to insulin resistance, hyperphagia, and increased risk of type 2 diabetes.
FTO-2	rs1121980	AG	MEDIUM	Increased risk of obesity related with insulin resistance, hyperphagia, and increased risk of type 2 diabetes.
MC4R-2	rs17700633	AG	MEDIUM	Increased risk of obesity and type 2 diabetes.

INDICATIONS

LOW RISK

Reduced risk of obesity due to inherited genetic factors.

MEDIUM-LOW RISK

Medium-low risk of obesity due to inherited genetic factors.

MEDIUM-HIGH RISK

Medium-high risk of obesity due to inherited genetic factors. Other factors such as intake due to anxiety or low satiety may explain excess weight.

HIGH RISK

High risk of obesity due to inherited genetic factors. Other factors such as intake due to anxiety or low satiety may explain excess weight.

Risk of rebound weight gain

- HIGH REBOUND EFFECT -

ABOUT

Individuals with certain genetic variants of the ADIPOQ gene were found to be more susceptible to regain weight after weight loss interventions (rebound effect).

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
ADIPOQ	rs17300539	GG	HIGH	Predisposition to regain weight after dieting.

INDICATIONS

LOW REBOUND EFFECT

Low risk of rebound weight after diet interventions. Normal weight loss capacity.

MEDIUM-LOW REBOUND EFFECT

Medium-low risk of rebound weight after diet interventions. Normal weight loss capacity.

MEDIUM-HIGH REBOUND EFFECT

Medium-high risk of rebound weight after diet interventions. Lower weight loss capability than normal during interventions.

HIGH REBOUND EFFECT

High risk of rebound weight after diet interventions. Lower weight loss capability than normal during interventions. It will require an extra effort to loose weight and keep it off afterwards.

Risk of increased BMI

- MEDIUM-HIGH RISK -

ABOUT

The predisposition to increase waist circumference and body mass index (BMI) is analyzed. BMI is used to determine whether an individual is in a healthy weight range for the correspondent height. It is useful to consider BMI alongside waist circumference, as waist measurement helps to assess risk by measuring the amount of fat carried around the middle.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
MC4R-3	rs12970134	AA	HIGH	High risk of increased BMI, increased waist circumference and insulin resistance.
MC4R-4	rs17782313	CC	HIGH	High risk of increased BMI, increased waist circumference and insulin resistance.
SH2B1-1	rs4788102	GG	LOW	Normal risk of increased BMI.

INDICATIONS

LOW RISK

Reduced risk of increased BMI, waist circumference and insulin resistance due to genetics.

MEDIUM-LOW RISK

Medium-low risk of increased BMI, waist circumference and insulin resistance due to genetics.

MEDIUM-HIGH RISK

Medium-high risk of increased BMI, waist circumference and insulin resistance due to genetics.

HIGH RISK

High risk of increased BMI, waist circumference and insulin resistance due to genetics.

Basal metabolic rate (burn calories at rest)

- MEDIUM-LOW BURNER -

ABOUT

The predisposition to an increase/decrease in energy expenditure while resting is analysed. Some people have a higher tendency then others to expend less energy when not performing any physical activity, which supports weight gain.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
FABP2	rs1799883	CT	LOW	Predisposition to decreased resting metabolic rate.
LEPR-4	rs2025804	AA	HIGH	Predisposition to normal resting metabolic rate.

INDICATIONS

HIGH BURNER

HIGH ENERGY/CALORIE BURNING CAPACITY AT REST

MEDIUM-HIGH BURNER

MEDIUM-HIGH CAPACITY TO BURN ENERGY/CALORIES AT REST

MEDIUM-LOW BURNER

MEDIUM-LOW CAPACITY OF ENERGY/CALORIE BURNING AT REST

LOW BURNER

LOW ENERGY/CALORIE BURNING CAPACITY AT REST

Weight loss capability during diet interventions

- NORMAL WEIGHT LOSS -

ABOUT

The predisposition to an increase/decrease in weight loss during diet interventions is analysed. Some people have a higher tendency than others to lose weight when they follow a diet intervention. Lower capabilities will imply a longer time to accomplish the goals and would require a stricter intervention.

MARKER	LOCUS	VARIANT	CAPABILITY	DESCRIPTION
ACSL5	rs2419621	TC	MEDIUM	Predisposition to slower diet-induced weight loss.

INDICATIONS

RAPID WEIGHT LOSS

Diet interventions should be successful due to a higher capability to reduce weight while on diet.

NORMAL WEIGHT LOSS

Diet interventions should be successful due to a normal capability to reduce weight while on diet. However it may take a minimum of 3-6 months to be effective.

SLIGHTLY SLOW WEIGHT LOSS

Standard diet interventions could not be successful due to a low capability to reduce weight while on diet. Specialized treatments would be recommended.

SLOW WEIGHT LOSS

Diet interventions should contain a complete approach for the patient, both nutritional and psychological, due to the lower capability to reduce weight while on diet. Specialised treatments will be recommended.

Appetite and anxiety risk

- INCREASED -

ABOUT

Genetic variations affecting appetite and anxiety related to eating are analysed. Appetite is a phenomenon created by our nervous system which results in a desire to eat, either by necessity or by pleasure, and in which external factors (such as odors, flavours, appearance and presentation of food) are involved. It has been seen in numerous studies that the appetite or desire to eat can also have genetic causes that can determine inhibition of intake or reduced feeling of being full. Anxiety related to food intake can be caused by periods of stress, but it has also been seen that there is an important genetic component that makes us more prone to anxiety and translates into compulsive eating more easily. The main parameters related to genetic predisposition to deregulated levels of appetite and anxiety in food intake, increased risk of obesity, increased food intake and reduced fullness are analysed below. Knowing how these genetic processes affect your diet allows proper handling of meals.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
COMT	rs4680	GA	MEDIUM	Increased risk of overeating.
NMB	rs1051168	GG	LOW	Normal risk of eating disinhibition.
DRD2-1	rs1800497	AG	HIGH	Predisposition to emotional eating and obesity.
MC4R-1	rs2229616	CC	HIGH	Predisposition to binge eating.
DRD2-2	rs6277	AA	HIGH	Predisposition to binge eating.

INDICATIONS

NORMAL

Normal or well-balanced regulation of appetite and eating-related anxiety.

SLIGHTLY INCREASED

Medium-low dysregulation of the appetite, leading to some levels of anxiety affecting food intake.

INCREASED

Medium-high dysregulation of the appetite, leading to elevated levels of anxiety affecting food intake. Appetite suppressants may be helpful.

HIGHLY INCREASED

High dysregulation of the appetite, leading to high levels of anxiety affecting food intake. Appetite suppressants may be required and possibly anxiolytic prescription upon medical decision.

Satiety: Feeling Full

- SLIGHTLY LOWER SATIETY -

ABOUT

The perception of feeling full and satisfied after food intake is different within individuals. This is particularly important as the longer it takes to reach this feeling, the more food intake will occur, contributing to weight gain.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
FTO-1	rs9939609	AT	MEDIUM	Slight predisposition to diminished satiety. Increased risk of obesity.

INDICATIONS

NORMAL SATIETY

Normal perception of satiety after eating, activated after 15-20 minutes of the start of the meal.

SLIGHTLY LOWER SATIETY

Slighlty reduced perception of satiety after eating a meal. Try to eat slower to allow the satiety center to be activated.

LOWER SATIETY

Reduced perception of satiety after eating a meal. Eat slower to allow the satiety center to be activated.

VERY LOW SATIETY

Very low perception of satiety after eating a meal. Eat very slow to allow the satiety center to be activated. Incorporate satiating food in your daily diet.

Benefits from endurance exercise for improving HDL levels

- VERY LOW EXPECTED BENEFITS FROM EXERCISE -

ABOUT

The predisposition to improving the HDL cholesterol levels via exercising is analysed. The expected efficacy of exercise on cholesterol regulation differs between individuals and is highly dependant on your genetics.

MARKER	LOCUS	VARIANT	BENEFIT	DESCRIPTION
PPARD	rs2016520	TT	LOW	No predisposition to increase HDL cholesterol levels in response to endurance exercise.

INDICATIONS

HIGH EXPECTED BENEFITS FROM EXERCISE

Exercise will be strongly beneficial for cholesterol regulation (HDL increase).

MEDIUM-HIGH EXPECTED BENEFITS FROM EXERCISE

Exercise will be beneficial for cholesterol regulation (HDL increase).

MEDIUM-LOW EXPECTED BENEFITS FROM EXERCISE

Exercise alone will not be enough for cholesterol regulation.

VERY LOW EXPECTED BENEFITS FROM EXERCISE

Exercise alone will not be enough for cholesterol regulation.

Exercise to reduce body fat

- MEDIUM-HIGH EXPECTED BENEFIT FROM EXERCISE -

ABOUT

The efficacy of physical activity to reduce body fat is different among all of us and the cause is mainly genetic. This is the reason why some people, even exercising daily tend to lose less weight than others exercising a couple of times a week. In this category, the genes related to the efficacy of exercise to reduce body fat are analysed.

MARKER	LOCUS	VARIANT	BENEFIT	DESCRIPTION
FTO-1	rs9939609	AT	MEDIUM	Slight predisposition to lose fat during physical exercise.
FTO-2	rs1121980	AG	MEDIUM	Predisposition to lose fat slowly during physical exercise.
LIPC	rs1800588	CC	LOW	No predisposition to benefit from physical exercise to increase HDL cholesterol levels.
LEP	rs7799039	GA	HIGH	Normal predisposition to exercise-induced fat loss.

INDICATIONS

HIGH EXPECTED BENEFIT FROM EXERCISE

An exercise strategy will be a very good option for weight loss. Exercise 3-4 times per week at medium-high intensity will be beneficial for slimming. Introduce also some diet restrictions.

MEDIUM-HIGH EXPECTED BENEFIT FROM EXERCISE

An exercise strategy may be a good option for weight loss. Exercise 2-3 times per week at medium-high intensity will be beneficial for slimming. Also introduce some diet restrictions.

MEDIUM-LOW EXPECTED BENEFIT FROM EXERCISE

An exercise strategy may not be the best option for weight loss. Rather introduce diet restrictions and institute healthy sport-related habits (walking, swimming at low intensity).

VERY LOW EXPECTED BENEFIT FROM EXERCISE

An exercise strategy may not be the best option for weight loss. Rather introduce diet restrictions and institute healthy sport-related habits (walking, swimming at low intensity).

Response to monosunsaturated fats (MUFAs)

- VERY LOW MUFA METABOLISM -

ABOUT

The predisposition to a higher/lower capacity to metabolize monounsaturated fatty acids (MUFAs) is analysed. MUFAs are a class of fatty acids found in foods such as olive oil, nuts and avocados. The beneficial effects of MUFAs on cardiovascular disease risk and blood lipid profiles have been extensively studied: dietary MUFAs decrease oxidized LDL, LDL cholesterol, total cholesterol, and triglyceride concentrations, without the concomitant decrease in HDL typically seen with low-fat diets.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
ADIPOQ	rs17300539	GG	LOW	No predisposition to reduce BMI and decrease obesity risk in response to monounsaturated fatty acids (MUFA) intake.

INDICATIONS

FAST MUFA METABOLISM

Normal capability of burning monounsaturated fat (MUFA). Increased capability to intake and metabolize MUFA with low weight gain.

MEDIUM MUFA METABOLISM

Medium capability of burning monounsaturated fat (MUFA). MUFA intake may lead to low weight gain unless a high-fat diet is followed.

LOW MUFA METABOLISM

Low capability of burning monounsaturated fat (MUFA). Direct correlation of high-MUFA intake and weight gain due to fat accumulation.

VERY LOW MUFA METABOLISM

Very low capability of burning monounsaturated fat (MUFA). Direct correlation on high-MUFA intake and weight gain due to fat accumulation.

Response to polyunsaturated fats (PUFAs)

- MEDIUM PUFA METABOLISM -

ABOUT

The predisposition to a higher/lower capacity to metabolize polyunsaturated fatty acids (PUFA) and to improve the lipidic profile (decreased LDL-levels) with PUFA intake is analysed. Polyunsaturated fatty acids are necessary to build cell membranes and nerve coverings as well as for proper blood clotting, muscle movement and inflammation. There are two main types of polyunsaturated fats: omega-3 fatty acids and omega-6 fatty acids. Both types provide health benefits.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
PPAR-Y	rs1801282	GC	MEDIUM	Slight predisposition to improve lipid profile (LDL and total cholesterols) and reduce BMI in response to a PUFA-rich diet.
FADS1	rs174547	CT	MEDIUM	Age-related predisposition to slightly reduced PUFA biosynthetic capacity and lower plasma omega 3 concentration.

INDICATIONS

FAST PUFA METABOLISM

Normal capability of burning polyunsaturated fat (PUFA). Increased capability to intake and metabolize PUFA with low weight gain. Improved lipidic profiles with PUFA intake.

MEDIUM PUFA METABOLISM

Medium capability of burning polyunsaturated fat (PUFA). PUFA intake may lead to low weight gain unless a high-fat diet is followed. Improved lipidic profiles with PUFA intake.

LOW PUFA METABOLISM

Low capability of burning polyunsaturated fat (PUFA). Direct correlation of high-PUFA intake and weight gain due to fat accumulation.

VERY LOW PUFA METABOLISM

Very low capability of burning polyunsaturated fat (PUFA). Direct correlation of high-PUFA intake and weight gain due to fat accumulation.

Response to fat intake to improve the HDL levels

- VERY LOW EXPECTED BENEFITS -

ABOUT

The predisposition to have increased or reduced levels of HDL is analyzed according to the genetic situation of liver lipases. With this category, we understand if a low fat diet is a good strategy to regulate cholesterol levels.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
LIPC	rs1800588	CC	LOW	No predisposition to improve HDL cholesterol levels in response to low fat diet.

INDICATIONS

HIGH EXPECTED BENEFITS

A low fat diet will be of great help in increasing HDL levels.

MEDIUM-HIGH EXPECTED BENEFITS

A low fat diet will be a good support to increase HDL levels.

MEDIUM-LOW EXPECTED BENEFITS

Low fat diet will not be enough to increase HDL levels.

VERY LOW EXPECTED BENEFITS

Low fat diet will not be enough to increase HDL levels.

Capability to digest starchy food

- REDUCED STARCH DIGESTION -

ABOUT

The capability to break down starch from food is analysed. Amylase is an enzyme that catalyzes the hydrolysis of starch into sugars. Amylase is present in the saliva of humans and some other mammals, where it begins the chemical process of digestion. When starch is not properly processed, its consumption must be reduced in a diet plan.

MARKER	LOCUS	VARIANT	CAPABILITY	DESCRIPTION
AMY1-AMY2	rs11577390	CC	LOW	No predisposition to increased expression of the amylase gene.
AMY1	rs4244372	TT	HIGH	Predisposition to increased expression of the amylase gene which is likely to enable more efficient starch digestion.

INDICATIONS

INCREASED STARCH DIGESTION

Increased capability to digest starch from food due to an increase in the expression and the activity of amylase enzyme. It is known that reducing calories will be beneficial.

MEDIUM STARCH DIGESTION

Moderate capability to digest starch from food due to an increase in the expression and the activity of amylase enzyme. It is known that reducing calories will be beneficial.

REDUCED STARCH DIGESTION

Reduced capability to digest starch in food due to a decrease in amylase enzyme activity. It would be beneficial to decrease starch intake.

HIGHLY REDUCED STARCH DIGESTION

Highly reduced capability to digest starch in food due to a decrease in amylase enzyme activity. It would be beneficial to decrease starch intake.

Refined carbohydrate sensitivity

- NORMAL CARBOHYDRATE SENSITIVITY -

ABOUT

Carbohydrate consumption initially produces a slight euphoria, followed by a sugar low, this is then replaced by tiredness. This adverse feeling causes a desire to snack more, perpetuating this unhealthy cycle, without ever feeling satisfied. In carbohydrates sensitive people the carbohydrate-insulin-serotonin connection has malfunctioned, or become desensitised and the amount of calories extracted by the consumption of refined carbohydrates is higher than average, also due to a continuous increase of its consumption.

MARKER	LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
FABP2	rs1799883	CT	NORMAL	Predisposition to normal sensitivity to refined carbohydrates.

INDICATIONS

NORMAL CARBOHYDRATE SENSITIVITY

Normal calorie extraction from carbohydrate consumption.

MEDIUM CARBOHYDRATE SENSITIVITY

Moderate calorie extraction from carbohydrate consumption. Medium risk of weight gain.

HIGH CARBOHYDRATE SENSITIVITY

Increased calorie extraction from carbohydrate consumption. Higher risk of weight gain.

VERY HIGH CARBOHYDRATE SENSITIVITY

Highly increased calorie extraction from carbohydrate consumption. Very high risk of weight gain.

Carbohydrates and HDL levels predisposition

- HIGH RISK OF DYSREGULATION -

ABOUT

Carbohydrate intake has an implication on the regulation of cholesterol levels. We analyse the predisposition to increase or decrease the HDL cholesterol levels depending on carbohydrate intake.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
KCTD10	rs10850219	GG	HIGH	Predisposition to reduce HDL cholesterol levels in response to a carbohydrate-rich diet.

INDICATIONS

LOW RISK OF DYSREGULATION

High carbohydrate consumption will not lead to a cholesterol dysregulation.

MEDIUM-LOW RISK OF DYSREGULATION

High carbohydrate consumption may lead to slightly increased LDL and decreased HDL levels.

MEDIUM-HIGH RISK OF DYSREGULATION

High carbohydrate consumption will lead to increased LDL and decreased HDL levels.

HIGH RISK OF DYSREGULATION

High carbohydrate consumption will lead to highly increased LDL and decreased HDL levels.

Carbohydrates and LDL levels

- LOW RISK OF DYSREGULATION -

ABOUT

Effect of carbohydrate intake in the regulation of cholesterol levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
MMAB	rs2241201	CC	LOW	No predisposition to increase LDL cholesterol levels in response to high intake of carbohydrates.

INDICATIONS

LOW RISK OF DYSREGULATION

High carbohydrate consumption will not lead to cholesterol dysregulation.

MEDIUM-LOW RISK OF DYSREGULATION

High carbohydrate consumption will lead to very slight increased LDL and decreased HDL levels.

MEDIUM-HIGH RISK OF DYSREGULATION

High carbohydrate consumption will lead to increased LDL and decreased HDL levels.

HIGH RISK OF DYSREGULATION

High carbohydrate consumption will lead to highly increased LDL and decreased HDL levels.

Predisposition to reduced HDL levels

- REDUCED HDL LEVELS -

ABOUT

Although environmental factors play a role, variation in HDL levels are at least 50% genetically determined. In this category the main genes involved in the predisposition to higher or lower HDL levels are analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
APOA5	rs662799	AA	LOW	Predisposition to normal levels of HDL cholesterol.
CETP	rs5883	CC	HIGH	Predisposition to decreased HDL cholesterol levels.

INDICATIONS

NORMAL HDL LEVELS

Normal regulation of HDL levels. No increased risk of cardiovascular risk.

SLIGHTLY DECREASED HDL LEVELS

Slightly lower HDL levels leading to increased cardiovascular risk.

REDUCED HDL LEVELS

Lower HDL levels leading to increased cardiovascular risk.

HIGLY REDUCED HDL LEVELS

Very low HDL levels leading to increased cardiovascular risk.

Predisposition to increased levels of triglycerides

- TRIGLYCERIDES NOT INCREASED -

ABOUT

Triglycerides are a type of fat (lipid) found in your blood. When you eat, your body converts any calories it doesn't need to use right away into triglycerides. The triglycerides are stored in your fat cells. Later, hormones release triglycerides for energy between meals. If you regularly eat more calories than you burn, particularly from high-carbohydrate foods, you may have high triglycerides (hypertriglyceridemia). In this category we analyse the genes related to the predisposition of having increased levels of triglycerides.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PPAR-Y	rs1801282	CG	LOW	Predisposition to normal levels of triglycerides.

INDICATIONS

TRIGLYCERIDES NOT INCREASED

No predisposition to increased triglyceride levels.

SLIGHTLY INCREASED TRIGLYCERIDES

Slight predisposition to increased triglyceride levels.

INCREASED TRIGLYCERIDES

Medium-high predisposition to increased triglyceride levels.

HIGHLY INCREASED TRIGLYCERIDES

High predisposition to increased triglyceride levels

Predisposition to increased oxidation of LDL

- NOT INCREASED LDL OXIDATION -

ABOUT

Oxidized low-density lipoprotein (LDL) is a harmful type of cholesterol that is produced in your body when normal LDL cholesterol is damaged by chemical interactions with free radicals. These, and a related series of inflammatory responses can result in atherosclerosis, which is the hardening of the arteries. The resulting decrease in blood flow in your arteries increases your chances of having a heart attack or a stroke. You can produce high levels of oxidized LDL if you have excessive free radical formation or simply high LDL cholesterol levels. In this category, the genes related to an increased predisposition to oxidize LDL are analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
APOB-2	rs676210	AA	LOW	No predisposition to increased LDL oxidation.

INDICATIONS

NOT INCREASED LDL OXIDATION

Normal LDL oxidation.

SLIGHTLY INCREASED LDL OXIDATION

Moderate increase in the LDL oxidation. Increased risk of atherosclerosis.

INCREASED LDL OXIDATION

Increased LDL oxidation. Increased risk of atherosclerosis. Strategies for reducing LDL levels would be recommended.

HIGHLY INCREASED LDL OXIDATION

Higly increased LDL oxidation and risk of atherosclerosis. Intense strategies for reducing LDL levels should be inititated.

Risk of increased cholesterol LDL levels

- SLIGHTLY INCREASED LDL LEVELS -

ABOUT

Low-density lipoprotein (LDL) is one of the five major groups of lipoprotein which transport all fat molecules around the body in extracellular water. LDL delivers fat molecules to cells. LDL can contribute to atherosclerosis if it is oxidized within the walls of arteries. In this category, the genes related to the risk of having increased cholesterol LDL levels in your body are analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
CELSR2	rs12740374	GT	MEDIUM	Increased predisposition to lower LDL cholesterol levels.
HNF1A	rs2650000	CC	LOW	Predisposition to normal LDL cholesterol levels.
LDLR	rs6511720	GG	HIGH	High risk of increased LDL cholesterol levels.
ABCG8	rs6544713	CC	LOW	High risk of increased LDL cholesterol levels.

INDICATIONS

NOT INCREASED LDL LEVELS
Lower risk of high LDL levels

SLIGHTLY INCREASED LDL LEVELS
Moderate risk of high LDL levels

INCREASED LDL LEVELS
High risk of high LDL levels.

HIGHLY INCREASED LDL LEVELS
Very high risk of high LDL levels.

Risk of unbalanced Triglycerides/HDL ratio

- HIGHLY INCREASED TG/HDL RATIO -

ABOUT

The predisposition to an unbalanced Triglyceride/HDL cholesterol (TG/HDL-C) ratio is analysed. High TG/HDL ratio has been identified as a risk factor for cardiovascular (CV) diseases.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
HMGCR	rs3846663	TT	HIGH	Predisposition to higher triglyceride (TG) levels, and higher TG/HDL cholesterol ratio.

INDICATIONS

NORMAL TG/HDL RATIO

Not associated with increased TG/HDL ratio.

SLIGHLTLY INCREASED TG/HDL RATIO

Slightly associated with increased TG/HDL ratio.

INCREASED TG/HDL RATIO

Increased TG/HDL ratio leads to a highly increased risk of cardiovascular pathologies. Risk of insulin insensitivity.

HIGHLY INCREASED TG/HDL RATIO

A very high TG/HDL ratio leads to a highly increased risk of cardiovascular pathologies. Risk of insulin insensitivity.

Risk of increased glucose levels in plasma after fasting

- MEDIUM-HIGH RISK OF HIGH GLUCOSE LEVELS

-

ABOUT

Fasting blood sugar levels give vital clues about how a person's body is managing blood sugar. Blood sugar tends to peak about an hour after eating and declines after that. High fasting blood sugar levels point to insulin resistance or diabetes. In this category, the genes related to the predisposition to an increased level of glucose after fasting are analysed, helping to understand how the body manages sugar.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PLIN1	rs2289487	CT	MEDIUM	Predisposition to slightly increased plasma glucose levels after fasting.
GHSR	rs490683	GG	HIGH	High risk of increased plasma glucose levels after fasting.

INDICATIONS

LOW RISK OF HIGH GLUCOSE LEVELS

Normal fasting plasma glucose levels. No increased risk of Type-II diabetes.

MEDIUM-LOW RISK OF HIGH GLUCOSE LEVELS

Normal or slightly increased fasting plasma glucose levels. No increased risk of Type-II diabetes.

MEDIUM-HIGH RISK OF HIGH GLUCOSE LEVELS

Increased fasting plasma glucose levels. Increased risk of Type-II diabetes.

HIGH RISK OF HIGH GLUCOSE LEVELS

High risk of Increased fasting plasma glucose levels. Increased risk of Type-II diabetes.

Risk of insulin resistance

- MEDIUM-LOW INSULIN RESISTANCE -

ABOUT

Insulin resistance (also called metabolic syndrome) is when cells in your muscles, fat, and liver don't respond well to insulin and can't use glucose from your blood for energy. To make up for it, your pancreas makes more insulin. Over time, your blood sugar levels go up. Insulin resistance syndrome includes a group of problems like obesity, high blood pressure, high cholesterol, and Type-II diabetes. In this category the genetic predisposition towards a higher risk of insulin resistance is analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PPAR-Y	rs1801282	CG	MEDIUM	Increased predisposition to insulin resistance.
ADIPOQ	rs17300539	GG	HIGH	High predisposition to insulin resistance.
TCF7L2-2	rs7903146	CC	LOW	No predisposition to insulin resistance.
FTO-1	rs9939609	AT	MEDIUM	Increased predisposition to insulin resistance.
FTO-2	rs1121980	AG	MEDIUM	Increased predisposition to insulin resistance.

INDICATIONS

LOW INSULIN RESISTANCE

Low inherited risk of insulin resistance

MEDIUM-LOW INSULIN RESISTANCE

Medium-low inherited risk of insulin resistance

MEDIUM-HIGH INSULIN RESISTANCE

Medium-high inherited risk of insulin resistance

HIGH INSULIN RESISTANCE

High inherited risk of insulin resistance

Risk of Type-II diabetes

- MEDIUM-HIGH DIABETES TYPE-II RISK -

ABOUT

Type-II diabetes mellitus (T2DM) is caused by complex interplay between multiple genetic and environmental factors. In this category, a complete analysis of the main genetic variants related to an increase in the risk of developing Type-II diabetes is analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PPAR-Y	rs1801282	CG	MEDIUM	Slightly increased risk of diabetes type 2.
PLIN1	rs2289487	CT	MEDIUM	Slightly increased risk of diabetes type 2.
TCF7L2-2	rs7903146	CC	LOW	Normal risk of diabetes type 2.
FTO-1	rs9939609	AT	MEDIUM	Increased risk of diabetes type 2.
MC4R-2	rs17700633	AG	MEDIUM	Slight predisposition to obesity increasing the risk of type 2 diabetes.
CDKN2A/B	rs10811661	CT	HIGH	High risk of type 2 diabetes.
KCNQ1	rs2237892	CC	HIGH	Increased risk of type 2 diabetes.
CDKN2A, CDKN2B	rs2383208	AG	MEDIUM	Increased risk of type 2 diabetes.
CDKAL1	rs7756992	AG	HIGH	Increased risk of type 2 diabetes.
TCF7L2-1	rs7901695	TT	LOW	Normal risk of type 2 diabetes.

INDICATIONS

LOW DIABETES TYPE-II RISK

Normal diabetes type-II risk.

MEDIUM-LOW DIABETES TYPE-II RISK

Medium-low risk of developing type-II diabetes.

MEDIUM-HIGH DIABETES TYPE-II RISK

Medium-high risk of developing type-II diabetes.

HIGH DIABETES TYPE-II RISK

High risk of developing type-II diabetes.

Bitter taste sensitivity

- NORMAL -

ABOUT

Sensitivity to bitter flavours is deeply linked to genetics. A high sensitivity to bitter flavours is usually linked to increased salt consumption. Therefore there is a higher predisposition to cardiovascular risks when extra salt is consumed intending to mask the bitter flavours.

MARKER	LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
TAS2R38-1	rs1726866	AG	NORMAL	Predispositon to normal sensitivity to bitter taste.
TAS2R38-2	rs713598	GC	NORMAL	Predispositon to normal sensitivity to bitter taste.

INDICATIONS

NORMAL

Normal or decreased sensitivity to bitter flavours. No extra salt should be consumed for this reason.

SLIGHTLY INCREASED

Slightly increased sensitivity to bitter flavours. No extra salt should be consumed for this reason.

INCREASED

Increased sensitivity to bitter flavours. Try to minimize bitter-tasting food, since it may lead to an increased consumption of salt.

HIGHLY INCREASED

High sensitivity to bitter flavours. Try to avoid bitter-tasting food, since it may lead to an increased consumption of salt.

Salt sensitivity

- MEDIUM-LOW SALT SENSITIVITY -

ABOUT

Salt sensitivity is defined as a physiological trait by which blood pressure shows changes parallel to changes in salt intake. In many individuals, when salt intake increases, the excess amount is excreted by the way of kidney or sweat. However, there are some individuals where this mechanism is faulty and increased salt is retained and manifests as high blood pressure.

MARKER	LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
ACE	rs4343	AG	MEDIUM2	Predisposition to increased salt sensitivity associated with increased risk of salt sensitive hypertension.

INDICATIONS

LOW SALT SENSITIVITY

Normal salt sensitivity: no increased blood pressure risk due to salt consumption.

MEDIUM-LOW SALT SENSITIVITY

Slightly increased salt sensitivity: moderately increased blood pressure risk due to salt consumption.

MEDIUM-HIGH SALT SENSITIVITY

Increased salt sensitivity: increased blood pressure risk due to salt consumption. Reduce current salt consumption, if daily intake is high.

HIGH SALT SENSITIVITY

High salt sensitivity: high blood pressure risk due to salt consumption. Reduce current salt consumption, if daily intake is high.

Sweet flavour preference

- NORMAL -

ABOUT

Increased desire to eat sweet food due to an incapacity of tasting sweet flavours.

MARKER	LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
SLC2A2	rs5400	GG	HIGH	No predisposition for preferring sugar-containing foods.

INDICATIONS

NORMAL

Normal taste of sweet flavour. No excess sugar intake should be required.

SLIGHTLY INCREASED

Slight incapacity to taste sweet flavours. This will lead to an increase in sugar consumption and obesity risk.

INCREASED

Incapacity to taste sweet flavours. This will lead to an increase in the sugar consumption and obesity risk. Consider using artificial sweeteners in your diet.

HIGHLY INCREASED

Major incapacity to taste sweet flavours. This will lead to an increase in the sugar consumption and obesity risk. Consider using artificial sweeteners in your diet.

Antioxidant capability

- SLIGHTLY REDUCED ANTIOXIDANT CAPABILITY -

ABOUT

The balance between production and clearance of reactive oxygen species (ROS) is essential for cell survival. Antioxidant cellular systems evolved to maintain a redox homeostasis under different physiological and pathological conditions. Therefore, understanding the status of the antioxidant mechanisms is a key factor for health improvement. The main genes involved in the human antioxidant capability are analysed in this category, allowing us to understand whether we need extra help via specific supplementation or if our internal antioxidant mechanisms work properly.

MARKER	LOCUS	VARIANT	CAPABILITY	DESCRIPTION
GPX1	rs1050450	GA	MEDIUM	Predisposition to slightly reduced hydrogen peroxide detoxification and increased oxidative damage.
NQO1	rs1800566	GA	MEDIUM	Predisposition to reduced NQO1 activity resulting in less effective protection against oxidative stress.
COMT	rs4680	GA	MEDIUM	Predisposition to slightly reduced COMT enzyme activity resulting in a less efficient inactivation of neurotransmitters and catecholestrogens.
SOD2	rs4880	AA	HIGH	Predisposition to normal hydrogen peroxide detoxification.
CYP1B1	rs1056836	CC	HIGH	Predisposition to normal CYP1B1 enzyme activity.
CYP1A1-2	rs1048943	TT	HIGH	Predisposition to normal CYP1A1 enzyme activity.
GSTP1	rs1695	AG	MEDIUM	Predisposition to slightly reduced GSTP1 activity leading to lower xenobiotic detoxification and increased susceptibility to oxidative stress.

INDICATIONS

NORMAL ANTIOXIDANT CAPABILITY

Normal capacity of metabolizing free radicals and cellular toxins.

SLIGHTLY REDUCED ANTIOXIDANT CAPABILITY

Slightly reduced capability of metabolizing free radicals and cellular toxins.

REDUCED ANTIOXIDANT CAPABILITY

Reduced capability of metabolizing free radicals and cellular toxins. Increased risk of cellular damage. Prescribe supplementation as suggested at gene level.

LOW ANTIOXIDANT CAPABILITY

Low capability of metabolizing free radicals and cellular toxins. High risk of cellular damage. Prescribe supplementation as suggested at gene level.

Calcium malabsorption risk

- LOW RISK OF CALCIUM MALABSORPTION -

ABOUT

Calcium dissolves in the stomach and is absorbed through the lining of the small intestine into the blood stream. Once in the blood stream, calcium builds bone, regulates the expansion and contraction of the blood vessels, and performs other important functions. Common factors for calcium malabsorption are a diet high in phytic acid (present in wholegrains), high levels of sodium intake, smoking and also genetic factors related to Vitamin D. In this category, the genetic factors related to a predisposition to calcium malabsorption due to lower levels of 25(OH) D (Vitamin D) are analysed. Therefore, a high risk of malabsorption would require an increase in vitamin D consumption or even controlled supplementation.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
CYP2R1-1	rs10766197	AG	MEDIUM	Predisposition to slightly reduced vitamin D levels and calcium absorption.
GC	rs2282679	TT	LOW	Predisposition to normal vitamin D levels and calcium absorption.

INDICATIONS

LOW RISK OF CALCIUM MALABSORPTION

Low inherited risk of calcium malabsorption.

MEDIUM-LOW RISK OF CALCIUM MALABSORPTION

Medium-low inherited risk of calcium malabsorption.

MEDIUM-HIGH RISK OF CALCIUM MALABSORPTION

Medium-high inherited risk of calcium malabsorption.

HIGH RISK OF CALCIUM MALABSORPTION

High inherited risk of calcium malabsorption.

Predisposition to dysregulated calcium levels

- NO ADDITIONAL RISK OF DYSREGULATED PLASMA CALCIUM LEVELS -

ABOUT

The predisposition to low or high levels of plasma calcium are analyzed in this category. A predisposition to high levels of calcium and increased absorption would be a warning against calcium supplementation due to the potential increased risk of vascular calcification.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
DGKD	rs1550532	GG	LOW	Predisposition to normal serum levels of calcium.
CYP24A1	rs1570669	AA	HIGH	Predisposition to reduced serum calcium levels and bone mineral density.
CASR-1	rs17251221	AA	LOW	Predisposition to normal serum calcium levels.
CASR-2	rs1801725	GG	LOW	Predisposition to normal serum calcium levels.
CARS	rs7481584	GG	LOW	Predisposition to normal serum calcium levels
GCKR	rs780094	TT	LOW	Predisposition to normal serum calcium levels

INDICATIONS

NO ADDITIONAL RISK OF DYSREGULATED PLASMA CALCIUM LEVELS

No additional risk of dysregulated plasma calcium levels.

SLIGHTLY INCREASED RISK OF DYSREGULATED PLASMA CALCIUM LEVELS

Slightly increased risk of dysregulated plasma calcium levels.

INCREASED RISK OF DYSREGULATED PLASMA CALCIUM LEVELS

Increased risk of dysregulated plasma calcium levels.

HIGHER RISK OF DYSREGULATED PLASMA CALCIUM LEVELS

High risk of dysregulated plasma calcium levels.

Risk of iron overload

- LOW RISK OF HEMOCHROMATOSIS -

ABOUT

Iron overload is defined as excess stores of iron in the body. Excess iron is deposited in organs throughout the body. The most notable organs with iron deposition are the liver, heart, and endocrine glands. Resulting symptoms and diseases are related to specific organ damage. In this category, the genetic risk of iron overload on high intake is analysed.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
HFE	rs1800562	GG	LOW	Predisposition to normal absorption of dietary iron.

INDICATIONS

LOW RISK OF HEMOCHROMATOSIS

No additional risk of iron overload.

MEDIUM-LOW RISK OF HEMATOCHROMATOSIS

Some risk of having increased iron absorption on high iron intake. Avoid iron excess.

MEDIUM-HIGH RISK O FHEMATOCHROMATOSIS

Medium risk of having increased iron absorption on high iron intake. Avoid iron excess and/or supplements.

HIGH RISK OF HEMATOCHROMATOSIS

High risk of having increased iron absorption on high iron intake. Avoid iron excess and/or supplements.

Risk of low iron plasma levels

- LOW RISK OF DECREASED IRON LEVELS -

ABOUT

Low iron levels may lead to anemia. In this category, the genetic risk of low transference of iron into the body is analysed. When your body has a predisposition to low iron levels, it will be necessary to ensure a diet with proper levels of iron.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
TF-1	rs3811647	GG	LOW	Predisposition to normal serum ferritin and iron levels.
TMPRSS6	rs4820268	AA	LOW	Predisposition to normal serum iron levels.
TF-2	rs8177253	CC	LOW	Predisposition to normal iron binding capacity.

INDICATIONS

LOW RISK OF DECREASED IRON LEVELS

No additional inherited risk of low iron levels.

MEDIUM-LOW RISK OF DECREASED IRON LEVELS

Some risk of having lower iron transference, only when iron intake is low. Ensure dietary daily recommended intake.

MEDIUM-HIGH RISK OF DECREASED IRON LEVELS

Moderate risk of having lower iron transference, only when iron intake is low. In that case, supplementation would be recommended.

HIGH RISK OF DECREASED IRON LEVELS

High risk of having lower iron transference, only when iron intake is low. In that case, supplementation would be recommended.

Predisposition to dysregulated magnesium levels

- MEDIUM-LOW RISK OF DYSREGULATED MAGNESIUM LEVELS -

ABOUT

Inherited risk of low magnesium plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
CASR-1	rs17251221	AA	LOW	Predisposition to normal serum magnesium levels.
TRPM6	rs11144134	TT	HIGH	Predisposition to lower serum magnesium levels.
SHROOM3	rs13146355	AA	LOW	Predisposition to normal serum magnesium levels.
DCDC5	rs3925584	CC	HIGH	Predisposition to lower serum magnesium levels.
MUC1	rs4072037	TT	LOW	Predisposition to normal magnesium levels.

INDICATIONS

NO ADDITIONAL RISK OF DYSREGULATED MAGNESIUM LEVELS

No additional risk of dysregulated plasma magnesium levels.

MEDIUM-LOW RISK OF DYSREGULATED MAGNESIUM LEVELS

Some risk of dysregulated plasma magnesium levels.

MEDIUM-HIGH RISK OF DYSREGULATED MAGNESIUM LEVELS

Medium risk of dysregulated plasma magnesium levels.

HIGH RISK OF DYSREGULATED MAGNESIUM LEVELS

High risk of dysregulated plasma magnesium levels.

Predisposition to dysregulated selenium levels

- MEDIUM-HIGH RISK OF DYSREGULATED SELENIUM LEVELS -

ABOUT

Selenium is an essential mineral and micronutrient. It is fundamental to human health and found in many foods. It is found in meat, grain cereals, egg yolk, milk, brazil nuts, mushrooms, garlic and seafood (hence, selenium levels are high in populations with high intake of seafood). Understanding the predisposition to low or high selenium levels will help for ensuring the proper selenium daily intake.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
AGA	rs1395479	AA	HIGH	Predisposition to high serum levels of selenium.
SLC39A11	rs891684	GG	LOW	Predisposition to normal serum selenium levels.

INDICATIONS

NO ADDITIONAL RISK OF DYSREGULATED SELENIUM LEVELS

No additional risk of dysregulated plasma selenium levels.

MEDIUM-LOW RISK OF DYSREGULATED SELENIUM LEVELS

Some risk of dysregulated plasma selenium levels.

MEDIUM-HIGH RISK OF DYSREGULATED SELENIUM LEVELS

Medium risk of dysregulated plasma selenium levels.

HIGH RISK OF DYSREGULATED SELENIUM LEVELS

High risk of dysregulated plasma selenium levels.

Sodium sensitivity

- MEDIUM-LOW SODIUM SENSITIVITY -

ABOUT

Inherited risk of dietary salt-induced blood pressure.

MARKER	LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
ACE	rs4343	AG	MEDIUM2	Predisposition to increased sodium sensitivity associated with increased risk of sodium sensitive hypertension.

INDICATIONS

LOW SODIUM SENSITIVITY

Normal sodium sensitivity: no increased blood pressure risk due to salt consumption.

MEDIUM-LOW SODIUM SENSITIVITY

Slightly increased sodium sensitivity: moderately increased blood pressure risk due to salt consumption.

MEDIUM-HIGH SODIUM SENSITIVITY

Moderate sodium sensitivity: increased blood pressure risk due to salt consumption. Reduce current salt consumption, if daily intake is high.

HIGH SODIUM SENSITIVITY

High sodium sensitivity: high blood pressure risk due to salt consumption. Reduce current salt consumption, if daily intake is high.

Lactose intolerance risk

- LACTOSE INTOLERANCE -

ABOUT

Lactose intolerance means that there are insufficient lactase enzymes to break down all the consumed lactose in the intestine. Partially digested or undigested lactose passes into the large intestine and that causes symptoms such as pain, abdominal bloating and diarrhea.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
MCM6-1	rs182549	CC	HIGH	Increased risk of lactose intolerance.
MCM6-2	rs4988235	GG	HIGH	Increased risk of lactose intolerance.

INDICATIONS

LOWER RISK OF LACTOSE INTOLERANCE

Lower risk of lactose intolerance.

SLIGHTLY INCREASED RISK LACTOSE INTOLERANCE

Slightly increased risk of lactose intolerance. Lower capability to digest lactose. Rather reduce the lactose intake.

MEDIUM-HIGH RISK LACTOSE INTOLERANCE

Medium-high risk of lactose intolerance. Lower capability to digest lactose. Rather reduce or avoid lactose-rich food.

LACTOSE INTOLERANCE

Lactose intolerance. Move to a lactose-free diet.

SYMPTOMS OF LACTOSE INTOLERANCE

If you suffer from these symptoms and / or have a medium or high risk of developing intolerance, it is advisable to eliminate these types of products from your diet if possible.

Major symptoms

- ▶ Nausea
- ▶ Abdominal pain
- ▶ Spasms
- ▶ Swelling and abdominal bloating
- ▶ Abdominal gases and flatulence
- ▶ Acidic diarrhea
- ▶ Vomiting

Other nonspecific symptoms due to an alteration of the intestinal mucosa

- ▶ Low mood
- ▶ Tiredness
- ▶ Pain in extremeties
- ▶ Skin problems
- ▶ Reduced mental concentration
- ▶ Nervousness
- ▶ Sleep Disorders

Alcohol metabolism

- NORMAL ALCOHOL METABOLISM -

ABOUT

People of certain genetic type may experience symptoms like redness or flushing of the face and neck after consuming alcohol. These reactions can result from variants in the ALDH2 gene which is involved in breaking down alcohol.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
ALDH2	rs671	GG	HIGH	Predisposition to normal alcohol metabolism.

INDICATIONS

NORMAL ALCOHOL METABOLISM

Normal risk of alcohol toxicity due to a normal metabolism.

NORMAL-INTERMEDIATE ALCOHOL METABOLISM

Moderate risk of alcohol toxicity due to a slightly slower metabolism.

INTERMEDIATE-SLOW ALCOHOL METABOLISM

Medium-high risk of alcohol toxicity due to slow metabolism.

SLOW ALCOHOL METABOLISM

High risk of alcohol toxicity due to slow metabolism.

SYMPTOMS OF ALCOHOL INTOLERANCE

If you suffer from these symptoms and / or have a medium or high risk of developing intolerance, it is advisable to eliminate these types of products from your diet if possible.

Major symptoms

- ▶ Facial redness (flushing)
- ▶ Red, itchy skin bumps (hives)
- ▶ Worsening of pre-existing asthma
- ▶ Runny or stuffy nose
- ▶ Low blood pressure
- ▶ Skin problems
- ▶ Diarrhea

Risk of celiac disease

- LOW RISK OF CELIAC DISEASE -

ABOUT

Celiac disease is an autoimmune disorder that occurs in genetically predisposed people where the ingestion of gluten leads to damage in the small intestine and causes digestive problems such as malabsorption of nutrients, abdominal pain or diarrhea. There are different risk haplotypes for celiac disease, the most prevalent is the haplotype HLA-DQ2.5 that covers 90% of celiac disease patients. However, there are other haplotypes (HLA-DQ2.2, HLA-DQ8) which account for 10% of cases and increase the risk of suffering celiac disease. This test determines whether or not an at-risk individual carries this additional risk.

HAPLOTYPE	HAPLOTYPE RESULT	HAPLOTYPE SNP DESCRIPTION	HAPLOTYPE RISK
DQ2.5/DQ2.5	Present	DQ2.5/DQ2.5 = rs2187668 (T/T)	High
DQ2.5/DQ2.2	Present	DQ2.5 = rs2187668 (T) & DQ2.2=rs2395182 (T) + rs7775228 (C) + rs4713586 (A)	High
DQ2.2/DQ2.2	Absent	DQ2.2/DQ2.2=rs2395182 (TT) + rs7775228 (CC) + rs4713586 (AA)	Medium
DQ2.5	Present	DQ2.5 = rs2187668 (T)	Medium
DQ2.5/DQ8	Absent	DQ2.5= rs2187668 (T) & DQ8= rs7454108 (T)	Medium
DQ2.5/DQ7	Present	DQ2.5= rs2187668 (T) & DQ7=rs4639334 (A)	Medium
DQ2.2	Present	DQ2.2/DQ2.2=rs2395182 (T) + rs7775228 (C) + rs4713586 (A)	Medium
DQ2.2/DQ8	Absent	DQ2.2 =rs2395182 (T) + rs7775228 (C) + rs4713586 (A) & DQ8= rs7454108 (T)	Medium
DQ2.2/DQ7	Present	DQ2.2 = rs2395182 (T) + rs7775228 (C) + rs4713586 (A) & DQ7=rs4639334 (A)	Medium
DQ8/DQ8	Absent	DQ8/DQ8= rs7454108 (CC)	Medium
DQ8/DQ7	Absent	DQ8= rs7454108 (C) & DQ7=rs4639334 (A)	Medium
DQ8	Absent	DQ8= rs7454108 (C)	Medium
DQ7/DQ7	Absent	DQ7/DQ7=rs4639334 (AA)	Low
DQ7	Present	DQ7=rs4639334 (A)	Low

INDICATIONS

NO ADDITIONAL RISK OF CELIAC DISEASE

No additional risk of celiac disease

LOW RISK OF CELIAC DISEASE

Carrier of celiac disease risk variant. Try to reduce the gluten intake (consult your specialist before making any dietary changes).

MEDIUM-HIGH RISK OF CELIAC DISEASE

Carrier of celiac disease risk variants. Try to reduce or avoid gluten-containing food (consult your specialist before making any dietary changes).

HIGHER RISK OF CELIAC DISEASE

The genetic test indicates a high risk of developing celiac disease. Before initiating any dietary changes, consult your specialist for further analysis.

SYMPTOMS OF GLUTEN INTOLERANCE

If you suffer from these symptoms and / or have a medium or high risk of developing intolerance, it is advisable to eliminate these types of products from your diet if possible.

Major symptoms

- ▶ Bloating
- ▶ Diarrhea, Constipation and Smelly Feces
- ▶ Abdominal pain
- ▶ Headaches
- ▶ Feeling Tired
- ▶ Skin problems
- ▶ Unexplained Weight Loss

Caffeine metabolism

- SLOW CAFFEINE METABOLIZER -

ABOUT

Metabolism of caffeine. Slower metabolism implies that caffeine will take longer to be degraded and therefore its effects will be more noticeable. However there is a risk of feeling anxious due to excessive consumption. On the other hand, faster metabolism implies that the patient will tend to increase consumption to get the same stimulating effects, since caffeine will be rapidly degraded.

MARKER	LOCUS	VARIANT	METABOLISM	DESCRIPTION
CYP1A1-1	rs2470893	CT	MEDIUM	Increased predisposition to slower caffeine metabolism.
CYP1A2	rs762551	CA	LOW	Predisposition to slow caffeine metabolism.

INDICATIONS

FAST CAFFEINE METABOLIZER

Fast speed of caffeine metabolism and increased desire to drink coffee in order to feel the benefits.

INTERMEDIATE-FAST CAFFEINE METABOLIZER

Intermediate speed of caffeine metabolism.

SLOW-INTERMEDIATE CAFFEINE METABOLIZER

Slow caffeine metabolism speed: caffeine will last longer in the body. Be careful with excess caffeine.

SLOW CAFFEINE METABOLIZER

Very slow caffeine metabolism speed: caffeine will last longer in the body. Be careful with excess caffeine.

SYMPTOMS OF CAFFEINE INTOLERANCE

If you suffer from these symptoms and / or have a medium or high risk of developing intolerance, it is advisable to eliminate these types of products from your diet if possible.

Major symptoms

- ▶ Acing heartbeat
- ▶ Headaches
- ▶ Jitters
- ▶ Nervousness or anxiousness
- ▶ Restlessness
- ▶ Insomnia

Fructose intolerance risk

- LOWER RISK OF FRUCTOSE INTOLERANCE -

ABOUT

Fructose malabsorption, or dietary fructose intolerance, occurs when cells on the surface of the intestines aren't able to break down fructose efficiently. Fructose is a simple sugar, known as a monosaccharide, that comes mostly from fruit and some vegetables. It's also found in honey, agave nectar, and many processed foods that contain added sugars. Symptoms of fructose malabsorption/intolerance include nausea, abdominal pain, diarrhea, vomiting, chronic fatigue, among others.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
ALDOB-1	rs1800546	CC	LOW	No predisposition to develop hereditary fructose intolerance.
ALDOB-2	rs76917243	GG	LOW	No predisposition to develop hereditary fructose intolerance.

INDICATIONS

LOWER RISK OF FRUCTOSE INTOLERANCE

Lower risk of fructose intolerance.

SLIGHTLY INCREASED RISK FRUCTOSE INTOLERANCE

Slightly increased risk of fructose intolerance. Lower capability to digest fructose. Rather reduce the fructose intake.

MEDIUM-HIGH RISK FRUCTOSE INTOLERANCE

Medium-high risk of fructose intolerance. Lower capability to digest fructose. Rather reduce or avoid fructose-rich food.

HIGH RISK FRUCTOSE INTOLERANCE

Fructose intolerance. Move to a fructose-free diet.

SYMPTOMS OF FRUCTOSE INTOLERANCE

If you suffer from these symptoms and / or have a medium or high risk of developing intolerance, it is advisable to eliminate these types of products from your diet if possible.

Major symptoms

- ▶ Nausea
- ▶ Bloating
- ▶ Abdominal pain
- ▶ Diarrhea
- ▶ Vomiting
- ▶ Chronic fatigue
- ▶ Malabsorption of certain nutrients,such as iron

Efficacy of low calorie diets

- MEDIUM-LOW EXPECTED BENEFIT FROM LOW-CALORIE DIET -

ABOUT

A complete set of genes related to the expected efficacy of a low-calorie diet is analysed in this category.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PPAR-Y	rs1801282	GC	LOW	Predisposition to weight loss induced by a low calorie diet.
ADIPOQ	rs17300539	GG	HIGH	No predisposition to weight loss induced by a low calorie diet.
LEPR-1	rs1805134	CT	MEDIUM	Increased predisposition to weight loss induced by a low calorie diet.
ACSL5	rs2419621	CT	MEDIUM	Increased predisposition to weight loss induced by a low calorie diet.
ADRB2	rs1042714	GC	MEDIUM	Increased predisposition to weight loss induced by a low calorie diet.

INDICATIONS

VERY LOW EXPECTED BENEFIT FROM LOW-CALORIE DIET

A pure low-calorie diet may not be the best option for weight loss.

MEDIUM-LOW EXPECTED BENEFIT FROM LOW-CALORIE DIET

A pure low-calorie diet may not be the best option for weight loss. However, a reduction in calorie intake may be beneficial.

MEDIUM-HIGH EXPECTED BENEFIT FROM LOW-CALORIE DIET

A low-calorie diet may be one of the best options for weight loss. Try to dramatically reduce calorie intake.

HIGH EXPECTED BENEFIT FROM LOW-CALORIE DIET

High expected efficacy of a low-calorie diet. It is strongly recommended to follow it.

Efficacy of low carbohydrate diets

- HIGH EXPECTED BENEFIT FROM LOW-CARBOHYDRATE DIET -

ABOUT

A complete set of genes related to the expected efficacy of a low-carbohydrate diet is analysed in this category.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
KCTD10	rs10850219	GG	LOW	Predisposition to weight loss induced by a low carbohydrate diet.
MMAB	rs2241201	CC	LOW	Predisposition to weight loss induced by a low carbohydrate diet.

INDICATIONS

VERY LOW EXPECTED BENEFIT FROM LOW-CARBOHYDRATE DIET

A pure low-carbohydrate diet may not be the best option for weight loss.

MEDIUM-LOW EXPECTED BENEFIT FROM LOW-CARBOHYDRATES DIET

A pure low-carbohydrate diet may not be the best option for weight loss. However, a reduction in carbohydrate intake may be beneficial.

MEDIUM-HIGH EXPECTED BENEFIT FROM LOW-CARBOHYDRATE DIET

A low-carbohydrate diet may be one of the best option for weight loss. Try to dramatically reduce carbohydrate intake.

HIGH EXPECTED BENEFIT FROM LOW-CARBOHYDRATE DIET

High expected efficacy of a low-carbohydrate diet. It is strongly recommended to follow it.

Efficacy of low fat diets

- MEDIUM-LOW EXPECTED BENEFIT FROM LOW-FAT DIET -

ABOUT

A complete set of genes related to the expected efficacy of a low-fat diet is analysed in this category.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
PPAR-Y	rs1801282	GC	MEDIUM	Increased predisposition to weight loss induced by a low fat diet.
GHSR	rs490683	GG	HIGH	No predisposition to weight loss induced by a low fat diet. Also applicable after gastric bypass.
APOA2	rs5082	AG	LOW	Predisposition to weight loss induced by a low fat diet.
SH2B1-2	rs7498665	AA	HIGH	No predisposition to weight loss induced by a low fat diet.
TCF7L2-2	rs7903146	CC	HIGH	No predisposition to weight loss induced by a low fat diet.
FTO-1	rs9939609	AT	MEDIUM	Increased predisposition to weight loss induced by a low fat diet.

INDICATIONS

VERY LOW EXPECTED BENEFIT FROM LOW-FAT DIET

A pure low-fat diet may not be the best option for weight loss.

MEDIUM-LOW EXPECTED BENEFIT FROM LOW-FAT DIET

A pure low-fat diet may not be the best option for weight loss. However, a reduction of fat intake may be beneficial.

MEDIUM-HIGH EXPECTED BENEFIT FROM LOW-FAT DIET

A low-fat diet may be one of the best options for weight loss. Try to dramatically reducefat intake.

HIGH EXPECTED BENEFIT FROM LOW-FAT DIET

The expected efficacy of a low-fat diet is high. It is strongly recommended to follow it.

Leptin

ABOUT

Leptin is a hormone which main function is sending a signal to the brain for food intake regulation. Leptin is commonly called the "satiety hormone". Low levels of leptin may imply problems of overeating and/or burning the stored fat. LEP-R is the gene coding for the cellular receptor of the leptin hormone. Its capability to bind leptin and start the cellular signalling is key for the satiety regulation function. Lower leptin binding capability may lead to high possibilities of leptin resistance, overeating and lower fat burning.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
LEP	rs7799039	GA	HIGH	Predisposition to lower levels of leptin.

Visfatin

ABOUT

Visfatin is an adipokine with an inflammatory and catabolic profile that has been associated with several metabolic risk factors, such as obesity, insulin resistance, and Type-II diabetes.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
NAMPT-1	rs9770242	AA	HIGH	High predisposition to increased levels of circulating visfatin.

Ghrelin

ABOUT

Ghrelin is a hormone produced in the gut, often termed "the hunger hormone", since it causes an increase in appetite through its effect in the brain. Imbalances in ghrelin are associated with appetite increase, increased calorie consumption and fat storage.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
GHSR	rs490683	GG	HIGH	Predisposition to normal ghrelin receptor (GHSR) expression.

Adiponectin

ABOUT

Adiponectin is a hormone that regulates glucose levels and fatty acid breakdown. Low levels of adiponectin are associated with inflammation, lipid abnormalities and insulin resistance.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
ADIPOQ-2	rs1501299	GG	HIGH	High predisposition to lower adiponectin plasma levels.
ADIPOQ-3	rs2241766	TT	HIGH	High predisposition to lower adiponectin plasma levels.

TNF-α

ABOUT

TNF-α is a pro-inflammatory cytokine, strongly linked to many inflammatory conditions, expressed in, and secreted by adipose tissues. Increased levels are associated with obesity-induced inflammation, adiposity and insulin resistance.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
TNF-α-1	rs1800629	AG	MEDIUM	Predisposition to moderately increased levels of TNF-alpha. Pro-inflammation tendency.

IL-6

ABOUT

IL-6 is an interleukin with mainly pro-inflammatory functions and is commonly used as inflammatory marker. High levels of IL-6 are associated with obesity, insulin resistance and metabolic syndrome.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
IL-6-1	rs1800795	GG	HIGH	Predisposition to highly increased levels of IL-6. Pro-inflammation.

IL-10

ABOUT

IL-10 is a cytokine with potent anti-inflammatory properties.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
IL-10-1	rs1800896	TC	MEDIUM	Predisposition to intermediate levels of the anti-inflammatory cytokine IL-10.

Vitamin E

- HIGH RISK OF VITAMIN E DEFICIENCY -

ABOUT

Inherited risk of vitamin E metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
INTERGENIC	rs12272004	CC	HIGH	High risk of low plasma levels of alpha-tocoferol (Vitamin E).
ZNF259, LOC100128347, APOA5, SIK3, BUD13	rs964184	CC	HIGH	High risk of low plasma levels of alpha-tocoferol (Vitamin E).

INDICATIONS

LOW RISK OF VITAMIN E DEFICIENCY

Normal vitamin E metabolism and levels. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN E DEFICIENCY

Low risk of Viamin E deficiency. Ensure daily recommended intake.

MEDIUM-HIGH RISK OF VITAMIN E DEFICIENCY

Medium risk of Vitamin E deficiency. Ensure daily recommended intake. Supplementation strategies might be of interest.

HIGH RISK OF VITAMIN E DEFICIENCY

High risk of Vitamin E deficiency. Ensure daily recommended intake. Supplementation strategies would be recommended.

Vitamin D

- MEDIUM-LOW RISK OF VITAMIN D DEFICIENCY -

ABOUT

Inherited risk of vitamin D metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
GC	rs2282679	TT	LOW	Normal risk of vitamin D deficiency.
CYP2R1-2	rs10741657	GG	HIGH	High risk of low serum levels of vitamin D.
NADSYN1, DHCR7-1	rs12785878	TT	HIGH	High risk of low serum levels of vitamin D.
CYP2R1-3	rs2060793	GG	LOW	Normal risk of vitamin D deficiency.
NADSYN1, DHCR7-2	rs3829251	GG	LOW	Normal risk of vitamin D deficiency.

INDICATIONS

LOW RISK OF VITAMIN D DEFICIENCY

Normal vitamin D metabolism and levels. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN D DEFICIENCY

Low risk of Viamin D deficiency. Ensure daily recommended intake.

MEDIUM-HIGH RISK OF VITAMIN D DEFICIENCY

Medium risk of Vitamin D deficiency. Ensure daily recommended intake. Supplementation strategies might be of interest.

HIGH RISK OF VITAMIN D DEFICIENCY

High risk of Vitamin D deficiency. Ensure daily recommended intake. Supplementation strategies would be recommended.

Vitamin C

- LOW RISK OF VITAMIN C DEFICIENCY -

ABOUT

Inherited risk of vitamin C metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
SLC23A2	rs1279683	AG	LOW	Normal risk of vitamin C deficiency.
SLC23A1	rs33972313	CC	LOW	Normal risk of vitamin C deficiency.

INDICATIONS

LOW RISK OF VITAMIN C DEFICIENCY

Normal vitamin C metabolism and levels. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN C DEFICIENCY

Low risk of Viamin C deficiency. Ensure daily recommended intake.

MEDIUM-HIGH RISK OF VITAMIN C DEFICIENCY

Medium risk of Vitamin C deficiency. Ensure daily recommended intake. Supplementation strategies might be of interest.

HIGH RISK OF VITAMIN C DEFICIENCY

High risk of Vitamin C deficiency. Ensure daily recommended intake. Supplementation strategies would be recommended.

Vitamin B12

- LOW RISK OF VITAMIN B12 DEFICIENCY -

ABOUT

Inherited risk of vitamin B12 metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
FUT2	rs602662	AA	LOW	Normal risk of vitamin 12 deficiency.

INDICATIONS

LOW RISK OF VITAMIN B12 DEFICIENCY

Normal vitamin B12 metabolism. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN B12 DEFICIENCY

Low risk of vitamin B12 deficiency. Ensure daily recommended intake.

MEDIUM-HIGH RISK OF VITAMIN B12 DEFICIENCY

Medium risk of vitamin B12 deficiency. Ensure daily recommended intake and increase it. Supplementation should be evaluated.

HIGH RISK OF VITAMIN B12 DEFICIENCY

High risk of vitamin B12 deficiency. Increase daily vitamin B12 intake. Supplementation should be evaluated.

Vitamin B9 (folate)

- MEDIUM-LOW RISK OF VITAMIN B9 (Folate) DEFICIENCY -

ABOUT

Inherited risk of vitamin B9 (folate) metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
MTHFR	rs1801133	GA	MEDIUM	Increased risk of lower serum levels of folate.

INDICATIONS

LOW RISK OF VITAMIN B9 (Folate) DEFICIENCY

Normal folate metabolism. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN B9 (Folate) DEFICIENCY

Low risk of folate deficiency. Ensure daily recommended intake.

MEDIUM-HIGH RISK OF VITAMIN B9 (Folate) DEFICIENCY

Medium risk of folate deficiency. Ensure daily recommended intake. It is recommended to supplement with L-methylfolate due to a lower capability to activate folate. It also impacts lower B12 levels when low levels of folate are active.

HIGH RISK OF VITAMIN B9 (Folate) DEFICIENCY

High risk of folate deficiency. Ensure daily recommended intake. Highly recommended to supplement with L-methylfolate due to a almost null capability to activate folate. It also impacts lower B12 levels when low levels of folate are active.

Vitamin B6

- HIGH RISK OF VITAMIN B6 DEFICIENCY -

ABOUT

Inherited risk of vitamin B6 metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
NBPF3	rs4654748	CC	HIGH	High risk of low plasma vitamin B6 concentrations.

INDICATIONS

LOW RISK OF VITAMIN B6 DEFICIENCY

Normal vitamin B6 metabolism. Ensure daily recommended intake.

MODERATE RISK OF VITAMIN B6 DEFICIENCY

Little predisposition to a vitamin B6 deficiency. Make sure that the recommended daily intake is met.

MEDIUM-HIGH RISK OF VITAMIN B6 DEFICIENCY

Medium risk of vitamin B6 deficiency. Ensure daily recommended intake and increase it. Supplementation should be evaluated.

HIGH RISK OF VITAMIN B6 DEFICIENCY

High risk of vitamin B6 deficiency. Increase daily vitamin B6 intake. Supplementation should be evaluated.

Vitamin A

- MEDIUM-LOW RISK OF VITAMIN A DEFICIENCY

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ABOUT

Inherited risk of vitamin A metabolism deficiency or low plasma levels.

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
BCMO1-1	rs12934922	TA	MEDIUM	Increased predisposition to reduced provitamin A conversion and increased fasting β-carotene concentrations.
BCMO1-2	rs7501331	TC	MEDIUM	Increased predisposition to reduced provitamin A conversion.

INDICATIONS

LOW RISK OF VITAMIN A DEFICIENCY

Normal vitamin A metabolism. Ensure daily recommended intake.

MEDIUM-LOW RISK OF VITAMIN A DEFICIENCY

Low risk of vitamin A deficiency. Ensure daily recommended intake or slightly increase it.

MEDIUM-HIGH RISK OF VITAMIN A DEFICIENCY

Medium risk of vitamin A deficiency. Ensure daily recommended intake and increase it. Supplementation should be evaluated.

HIGH RISK OF VITAMIN A DEFICIENCY

High risk of vitamin A deficiency. Increase daily vitamin A intake. Supplementation should be evaluated.

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