

NutriGen™

Professional Nutrigenomic Advice



Disclaimer

METHODOLOGY AND LIMITATIONS: Testing for genetic variation/mutation on listed genes was performed using Real-Time PCR with TaqMan® allele-specific probes on the QuantStudio 12K Flex. All genetic testing is performed by GX Sciences, 805 Las Cimas Pkwy, Suite 430, Austin TX, 78746. This test will not detect all the known alleles that result in altered or inactive tested genes. This test does not account for all individual variations in the individual tested. Test results do not rule out the possibility that this individual could be a carrier of other mutations/variations not detected by this gene mutation/variation panel. Rare mutations surrounding these alleles may also affect our detection of genetic variations. Thus, the interpretation is given as a probability. Therefore, this genetic information shall be interpreted in conjunction with other clinical findings and familial history. Patients should receive appropriate genetic counseling to explain the implications of these test results. The analytical and performance characteristics of this laboratorydeveloped test (LDT) were determined by GX Sciences' laboratory pursuant to Clinical Laboratory Improvement Amendments (CLIA) requirements. CLIA #: 45D2144988 Laboratory Director: James Jacobson, PhD DISCLAIMER: This test was developed and its performance characteristics were determined by GX Sciences. It has not been cleared or approved by the FDA. The laboratory is regulated under CLIA and qualified to perform high-complexity testing. This test is used for clinical purposes. It should not be regarded as investigational or for research. rsIDs for the alleles being tested were obtained from the dbSNP database. DISCLAIMER: Report contents and report recommendations are created based on the consultation, advice, and direction of Dr. Kendal Stewart, Medical Director for GX Sciences. Sole responsibility for the proper use of the information on the GX Sciences report rests with the user, or those professionals with whom the user may consult. Report contents and report recommendations are intended to be informational only. Report contents and report recommendations are not intended and should not be interpreted to make claims regarding the use, efficacy, or safety of products, formulas, and/or services listed herein. Only a doctor or other appropriately licensed health care professional, as a learned intermediary, can determine if a formula, product, or service described herein is appropriate for a specific patient. Sole responsibility for the proper use of the information on the GX Sciences report rests with the user, or those professionals with whom the user may consult. DISCLAIMER: These products are not approved by the Food and Drug Administration and are not intended to diagnose, treat, cure, or prevent disease. These recommendations are for informational purposes only and an individual is not required to use such products. These are recommendations only and do not replace the advisement of your healthcare practitioner. This test is NOT for diagnostic purposes. It may identify general health risks that are associated with genetic variations but does NOT indicate a propensity for or susceptibility to any illness, disease, impairment, or other disorders, whether physical or

Patient name: William Wellness Reception date: 02-17-2023
Sample code: NUT16919AA Results date: 02-20-2023





How to read and use the 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

An overview of the genetic analysis, vitamin deficiency risk, and the recommended diet and supplements.

III. Personalized Diet Plan

Compiled from your genetic and health/behavior data. List of foods to avoid and enhance: the nutritional description of 629 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

A complete description of all the analyzed SNPs within the NutriGen™ analysis 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.

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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.

Patient name: William Wellness Reception Sample code: NUT16919AA Result

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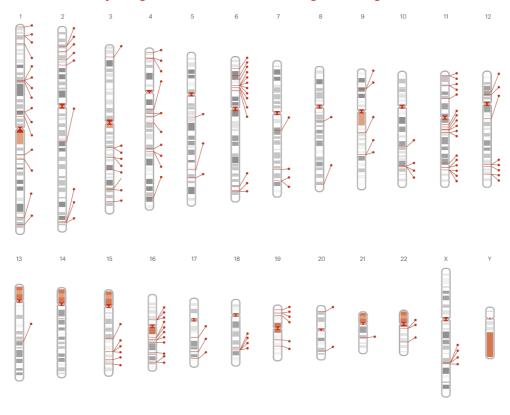
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Fagron Nutrigen™ studies 384 top-informative DNA variations in 59 different categories summarized in 15 macro categories

- 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 test¹



ABOUT

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

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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



ABOUT

Physical exercise and metabolism related factors

Daily sport activity _____ Moderate

- Basal metabolism -

Current (cal) _____ 1,915 Target (cal) _____ 1,870

- Current daily energy expenditure -

Current (cal) ______ 2,969
Target (cal) ______ 2,898
Variation (cal) ______ -71

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^{*} 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.





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.

Patient name: William Wellness Reception date: 02-17-2023
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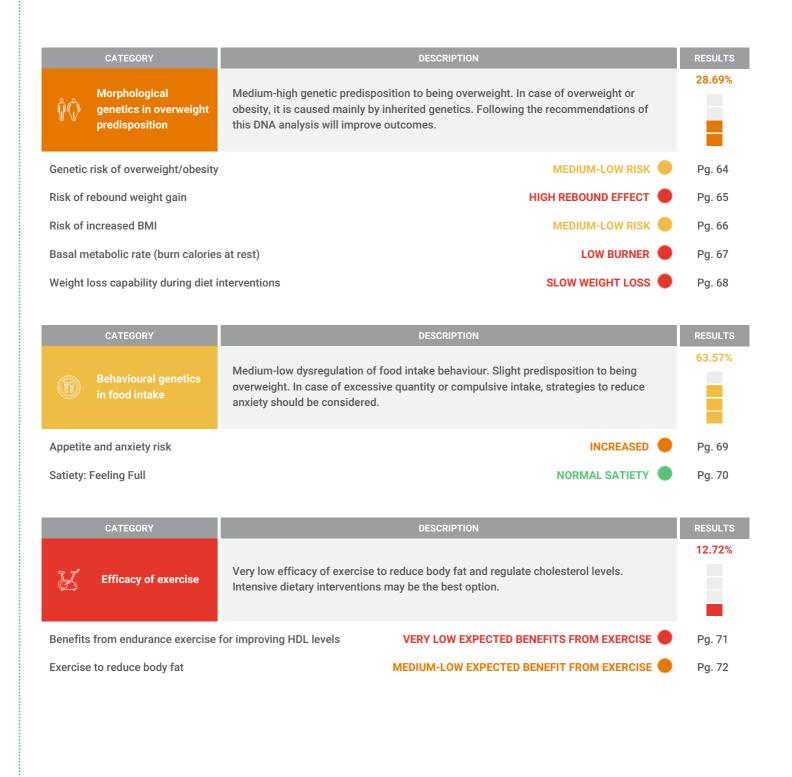
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Sample code NUT16919AA
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Passed quality control YES
Passed genotyping quality YES
Final quality control YES



Efficacies



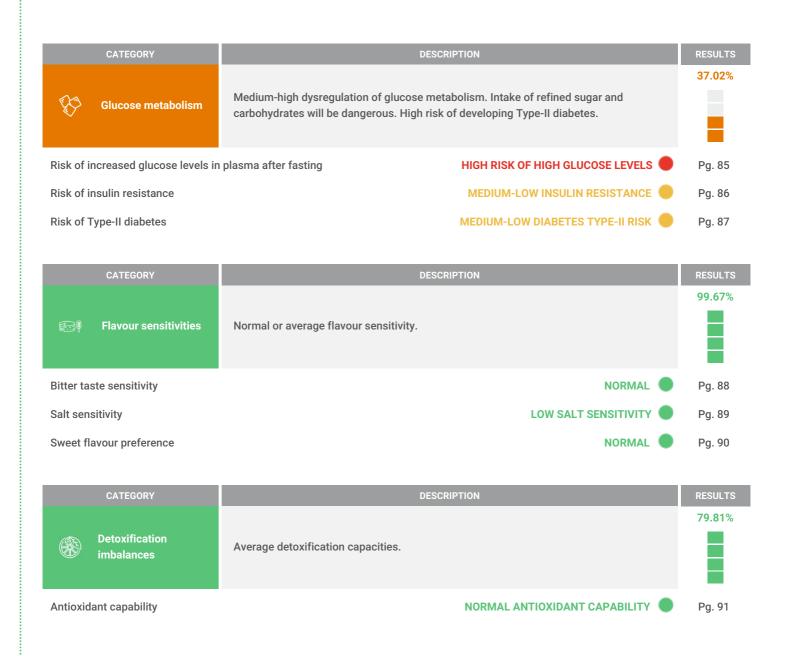
INDICATIONS

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

• Efficacies

CATEGORY		DESCRIPTION	RESULTS	
Fat metabolism	Negative fat burning capacity. It would be recommended to decrease the general fat intake.			
Response to monosunsaturated	fats (MUFAs)	VERY LOW MUFA METABOLISM	Pg. 73	
Response to polyunsaturated fa	ts (PUFAs)	FAST PUFA METABOLISM	Pg. 74	
Response to fat intake to improv	ve the HDL levels	MEDIUM-HIGH EXPECTED BENEFITS	Pg. 75	
CATEGORY		DESCRIPTION	RESULTS	
Carbohydrate metabolism	Negative carbohydrate metabolism: Carbohydrate intake will lead to dysregulation in cholesterol levels and also to increased calorie and fat intake. Eliminating refined carbohydrates is urgent; move to wholegrain carbohydrates and reduce the quantity.			
Capability to digest starchy food	I	REDUCED STARCH DIGESTION	Pg. 76	
Refined carbohydrate sensitivity		NORMAL CARBOHYDRATE SENSITIVITY	Pg. 77	
Carbohydrates and HDL levels p	redisposition	HIGH RISK OF DYSREGULATION	Pg. 78	
Carbohydrates and LDL levels		HIGH RISK OF DYSREGULATION	Pg. 79	
CATEGORY		DESCRIPTION	RESULT	
Lipid metabolism	Affected lipid metabolism. Cholesterol and triglyceride levels may show irregular results in blood analyses. Specific LDL or HDL treatments would be recommended. Increased cardiovascular risk.			
Predisposition to reduced HDL le	evels	REDUCED HDL LEVELS	Pg. 80	
Predisposition to increased leve	ls of triglycerides	HIGHLY INCREASED TRIGLYCERIDES	Pg. 81	
Predisposition to increased oxid	ation of LDL	SLIGHTLY INCREASED LDL OXIDATION	Pg. 82	
Risk of increased cholesterol LD	L levels	INCREASED LDL LEVELS	Pg. 83	
Risk of unbalanced Triglycerides/HDL ratio SLIGHLTLY INCREASED TG/HDL RATIO		SLIGHLTLY INCREASED TG/HDL RATIO	Pg. 84	

Efficacies



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 need	
Calcium malabsorption risk	LOW RISK OF CALCIUM MALABSORPTION	Pg. 92
Predisposition to dysregulated calcium	n levels NO ADDITIONAL RISK OF DYSREGULATED PLASMA CALCIUM LEVELS	Pg. 93
Risk of iron overload	LOW RISK OF HEMOCHROMATOSIS	Pg. 94
Risk of low iron plasma levels	MEDIUM-HIGH RISK OF DECREASED IRON LEVELS	Pg. 95
Predisposition to dysregulated magne	sium levels MEDIUM-LOW RISK OF DYSREGULATED MAGNESIUM LEVELS	Pg. 96
Predisposition to dysregulated seleniu	m levels NO ADDITIONAL RISK OF DYSREGULATED SELENIUM LEVELS	Pg. 97
Sodium sensitivity	LOW SODIUM SENSITIVITY	Pg. 98

	CATEGORY	DESCRIPTION		
	Intolerance	Please find below the different analysed categories related to intolerances and sensitivities.		
Lactose in	tolerance risk	LOWER RISK OF LACTOSE INTOLERANCE Pg. 9		
Alcohol m	etabolism	NORMAL ALCOHOL METABOLISM		
Risk of cel	liac disease	MEDIUM-HIGH RISK OF CELIAC DISEASE	Pg. 103	
Caffeine metabolism		FAST CAFFEINE METABOLIZER	Pg. 105	
Fructose intolerance risk		LOWER RISK OF FRUCTOSE INTOLERANCE	Pg. 107	

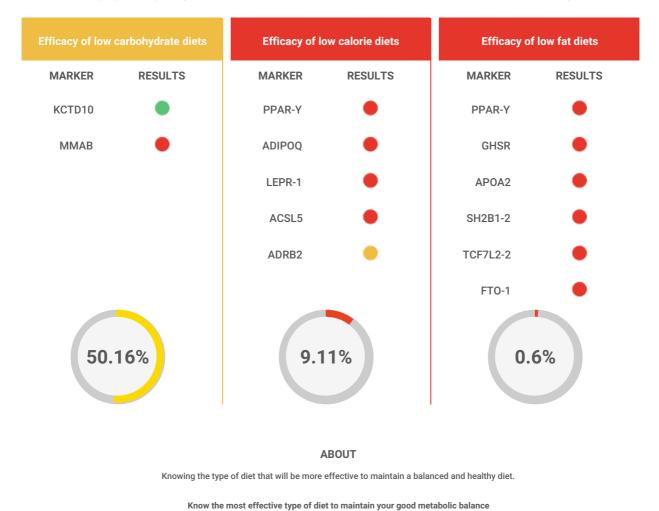
EFFECTIVENESS OF DIETS

- 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.



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.



Vitamin deficiency risk

Health Risks Generally Associated with Vitamin Deficiencies

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.

- ► Infectious diseases
- ▶ Vision problems

Vitamin **B**6

- **▶** Confusion
- **▶** Depression
- ► Canker on mouth and tongue
- ▶ Anemia

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 B¹²

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

Vitamin E

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



- ▶ 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



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

Inflammation

CATEGORY	DESCRIPTION
TNF-α	$TNF-\alpha$ 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 higher levels of the anti-inflammatory cytokine IL-10.



Hormones

• LEP

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.

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 No 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 with maintaining a healthy weight.

Below is a list of dietary supplements in the order of most recommended (from darker green to lighter green) to not recommended (red)



DETOX I DETOXIFICATION (OXIDATION) LIVER 15-30 days

- **▶** Ubiquinol
- **▶** Methionine
- ▶ Vitamin B12 (Cianocobalamin)
- ▶ Manganese
- ▶ Resveratrol
- ▶ Magnesium
- ► Nicotinamide (niacinamide)
- ► Zinc gluconate
- ► Vitamin B9 (Methylfolate)
- ► Vitamin D3 (Cholecalciferol)
- ► Alpha-Lipoic Acid (ALA)

- ► Acetylcysteine (N-Acetylcysteine)
- **▶** Quercetin
- ▶ Betacarotene
- ▶ Vitamin C (Ascorbic Acid)
- ► Glutamine (levoglutamine)
- ► Vitamin B6 (Pyridoxine hydrochloride)
- ► Glutathione (Reduced glutathione)
- ► Vitamin E (Tocoferol)
- ► Cooper (as gluconate or chelate)
- ► Vitamin B2 (Riboflavine)
- ► Taurine

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Supplements



DETOX II DETOXIFICATION (CONJUGATION) LIVER 15-20 days

- ▶ Methionine
- **▶** Magnesium
- **▶** Magnesium
- ► Vitamin B9 (Methylfolate)
- ► Vitamin D3 (Cholecalciferol)
- ► Alpha-Lipoic Acid (ALA)
- ► Acetylcysteine (N-Acetylcysteine)
- ► Glutamine (levoglutamine)
- ► Glutathione (Reduced glutathione)
- **▶** Taurine



PHASE 2 (TRANSPORTATION/EXCRETION) KIDNEY OR GI TRACT 10-15 days

- ► Magnesium
- ► Glutamine (levoglutamine)

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Supplements



SUPPLEMENTATION PHASE

- **▶** Ubiquinol
- **▶** Methionine
- ► Vitamin B12 (Cianocobalamin)
- **▶** Magnesium
- **▶** Biotin
- ▶ Manganese
- ▶ Resveratrol
- ▶ Magnesium

- ➤ Nicotinamide (niacinamide)
- ➤ Zinc gluconate
- **▶** Melatonin
- ► Vitamin B9 (Methylfolate)
- ➤ Vitamin D3 (Cholecalciferol)
- **▶** Lysine
- ► Alpha-Lipoic Acid (ALA)
- ► Acetylcysteine (N-Acetylcysteine)

- ▶ Quercetin
- ► Vitamin B1 (Thiamine hydrochloride)
- ► Niacin (nicotinic acid)
- **▶** Betacarotene
- ► Vitamin C (Ascorbic Acid)
- ► Glutamine (levoglutamine)
- ► Vitamin B6 (Pyridoxine hydrochloride)
- ► Glutathione (Reduced glutathione)

- ► Vitamin E (Tocoferol)
- ► Cooper (as gluconate or chelate)
- ► Vitamin B2 (Riboflavine)
- ► Vitamin A
- ▶ Taurine





III. Personalized Diet Plan

Made from your genetic and health/behavior data. List of foods to avoid and enhance: the nutritional description of 629 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.

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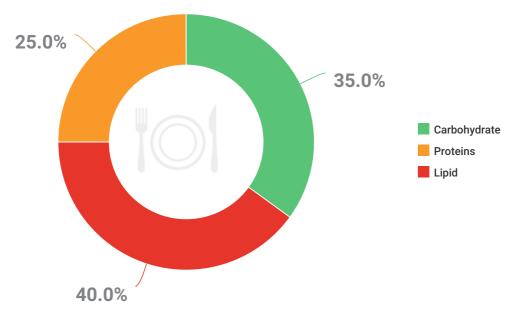
- INTEGRATED NUTRITIONAL PLAN (LOW IN CARBOHYDRATES) -

Based on your genetic and other health information, we recommend the INTEGRATED NUTRITIONAL PLAN (LOW IN CARBOHYDRATES) for your general health and wellness.

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 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

C Lipid

Fat

Asthaxanthin intolerance

Carrot intolerance

Figs intolerance

Galactose intolerance

Egg intolerance

Ginger intolerance

Tomato intolerance

Monounsaturated Fatty Acids (MUFAs)

Polyunsaturated Fatty

Acids (PUFAs)

Starch

Glucose Glucose

Salt

Kiwi intolerance

Nuts intolerance

Papaya intolerance

Pineapples intolerance

Cow-milk protein intolerance

Seafood intolerance

Soya intolerance

Vitamin A

B6 Vitamin B6

B9 Vitamin B9

R12 Vitamin B12

C Vitamin C

Vitamin D

Vitamin E

Antioxidant

Satiety Satiety

(Fe) Iron

Mg Magnesium

(Ca) Calcium

Selenium



FOOD	Indications	FOOD	Indications
Spinach, boiled	A B ⁶ B ⁹ E Fe Ca	Endive, raw	B ⁹ ©
Turnip greens	A B ₆ B ₉ C E ©	Kohlrabi, raw	B ₉ C ©
Red pepper	A B ⁶ B ⁹ C ©	Leek, raw	Be Be ©
Chicory	A B ⁹ C E ©	Chard, boiled	A B ⁹ C E Fe Ca
Bamboo shoots	Be B ₂ ©	Spinach, canned	A B ⁹ C E Fe Ca
Mustard greens , raw	A B ⁹ C E ©	radicchio, raw	B ₉ E ©
Asparagus, green	B9 Fe Ca	Courgette	B9 C ©
Cilantro, raw	A B ⁹ C E ©	Cauliflower, boiled	B ₉ C ©
Red cabbage, boiled	Be Be C ©	Bean Sprouts	B ⁹ C © ₃
Leek, frozen	Be Ba ©	Radish	B ₉ C ©
Mushroom, griddle	B ₉ C _a S _e	Calabash	B ⁹ ©

- 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



FOOD	Indications	FOOD	Indications
Mushroom	B9 ©a Se	Squash, acorn, baked	B 9 ©
Brussels sprout, frozen	B ₉ C ©	water chestnut	
Savoy cabbage	B ₉ C ©	Garlic	B6 B9 C © Se
Green bean, boiled	B ⁹ ©	Chard	A B ⁹ C E © M ⁹
Lettuce	A B ⁹ ©	Watercress	A B ⁹ C ©
Romaine lettuce	A B ⁹ ©	Broccoli, boiled	B ⁹ C ©
Pumpkin, boiled	A B ⁹ ©	Cabbage, white	B ⁹ C © _a
Chive	A B ₉ C ©	Cabbage	B ⁹ C ©
Palm heart, canned	Fe B9 €a 🛅	Swiss Chard, raw	A B9 C E © M9
Hearts of Palm, canned	Fe B ⁹ €a 🛅		
Jicama, raw	B ₉ C © ₃	Scallions/Green onion	B ⁹ C ⓐ
	I	Corn, on the cob	B ₉ C ₉

- 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



FOOD	Indications	FOOD	Indications
Turnip, peeled	B 9 ©	Grape leaves, Sera	Fe C © 11
Cucumber	B 9 ©	Cardoon	© B ₉
Tomato	B ₀ C ©	Artichoke, frozen	© B ₉
Onion	B ₉ ©	Sweet pepper, canned	C B ₉ © 🗒
Arugula	B _a C ©	Celery	B ₉ ©
Celery, raw	B 9 ©	Soybean, sprouts, canned	Be Ca Mg
Ginger root, raw	B 9 ©	Squash, all varieties, baked, winter	B ₉ A © 🗓
Tomato, ripe, peeled and ground, canned	B ₉ C ©	Arrowroot powder	ⓑ ∰ <u>n</u>
Celery root	B 9 ©	Green bean, canned	© B9 ₫
Carrot	A B ⁹ ©	Pico de Gallo	© B9 ₫
Sauerkraut	C B ⁹ © 🛅	Onion, roasted	© B 9 ⋒

- Allowed, adjusting the amounts and / or frequency
- Allowed without raising the recommended quantities and / or frequency
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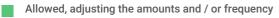


FOOD	Indications	FOOD	Indications
Avocado, raw		Beetroot, pickled, drained	© B9 🖺
Baby bok choy	© C 🖺	Peas, green	C B ₉ © 🖫
Edamame	Fe B9 Ca Mg FAT	Collard greens, fat added, cooked, fresh	A B ⁹ C E © fi
Okra, cooked	Be Ba C © Wa 🗒	Artichoke, tinned	© B9 🖺
Broccoflower, cooked	B ₉ B ₆ C © 🗓	Rutabaga, cooked	C B9 © 🗂
Kale, raw	A C ©	Aubergine	B 9 ©a
Eggplant, cooked, no added	© B9 🛅	Shallots, raw	B ₉ C ©
Asparagus, white, canned	C B ⁹ © 🛅	Olive, green	B ⁹ E ⓒ ੈ ੈ ♠ ♠
Beetroot, raw	B ⁹ ©a	Kohlrabi, cooked	C B ₉ © 🗒
Parsnips, cooked	C B ⁹ © 1	Mushrooms, canned	© B9 🖺
Caper	© B9 🖺	Beets, drained, boiled, cooked	B _a ©

- 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



FOOD	Indications	FOOD	Indications
Fennel, cooked	© B ⁹ 🖺	Escarole	
Horseradish	C B ⁹ © 🛅	Tomato, roasted	B _a C © 🖞 👰
Horseradish, prepared	C B ⁹ © 🛅	Bell pepper, raw	C fi Q
Bitter melon, cooked	B ₉ C @ 🖺 🕥	Beetroot, cooked in unsalted water	© B ₉
Olive, black		Pickled gherkin	B ₀ © 🗓 🖆



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	FOOD	Indications
Lentil, boiled	₿ В 9 ⓑ ⓒ	Lentil, canned	₩ B9 Fe Ca f
Pinto bean, steeped, boiled	⊕ Be Be ⊕	Tofu	№ B9 Fe Ca (S
Broad bean, dried, steeped, boiled	B ₉ ©a	Kidney Bean	∰ B9 Fe Ca f
White bean, boiled	₩ B 9 Fe Ca Mg	Black Bean	⊕ B₀ C₃ M₃ €
Chickpea, canned	Be \$\mathbb{B}\$ Bo \$\mathbb{g}\$	Tahini paste	⊕ ⊕ B9 Fe ⊙⊕ ♠ ∅
Chickpea, boiled	⊕ B9	Broad bean, fried	B9 © 🖺 🙀
Pea, frozen, boiled	B 9 ©	Soy flour	⊕ B ₆ B ₉ E (€
Pea, canned	© B9 🖺		Mg (FAT)
White bean, tinned	⊕ B9	Bar, Mind chocolate chip, high protein, Luna, Inc	B ⁶ B ¹² C (€
Soybean, dry, soaked, boiled	® B6 B9 € © M9	Bar, high protein, chocolate coconut, Luna Inc.	⊕ B6 B12 C (F
Chickpea flour, Bobs Red Mill Natural Foods, Inc	Fe) (2) (A)	Pea Protein	Fe iii 🖶
	I	Bar, chocolate chip cookie	Fe) Ca) A (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

dough protein bar

Fruits and derivatives



FOOD	Indications	FOOD	Indications
Raspberry	⊕ B9 C ⊚	Custard apple	C ©
Black currant	C ©	Grapefruit	B ₀ C ©
Cranberries, raw	B ₉ C ©	Watermelon	B ⁹ ©a
Chayote	B ₉ ©	Red grape	B _o C ©
Strawberry	B ₉ C (a)	Coconut	⊕ B9 Fe Ca Se ♠
Lime	B ₉ C ©	Apricot	B 9 ©
Blackberries, raw	B ₉ E ©	Orange	B _o C ©
Lemon juice, raw	B _o C ©	Nectarine	B 9
American persimmons	C Fe Ca	White grapes	B _o C ©
Avocado	Be Be E Ca (A)	Olive	B9 E ⓒ ੈ ੈ 🐼 🚳
Melon	B ₀ C ©	Red currant	B _o C ©

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

Fruits and derivatives



FOOD	Indications	FOOD	Indications
Pear	B ₉ ©a	Litchis	C B ₉ © 🙀
Coconut, dried	Be Be Ca Mg	Mango, without skin	C B ₉ © 🙀
Yellow plum, with skin	B ⁹ ©	Persimmon	© B ₉ €
Peach	B 9 ©a	Pomegranate	© B ₉
Papaya, without skin	B ₉ C © ₃	Pomegranate, raw	© B ₉
Pineapple	B ₉ C ©	Peach, dried	Fe (
Olive, black, with pip	Fe Ca A FAY	Cherry	© B ₉ €
Banana	B ₉ B ₆ ©	Figs	© B ₉ €
Kiwi	B ₉ C ©	Fruit salad, canned in own juice	© B ₉ €
Coconut flour, organic, by Hy-Vee, Inc.		Tangerine	C B ₉ © ■
Maracuja - Passion Fruit	B ⁹ ∰ C ⊚ €	Apple	© B ₉

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Fruits and derivatives



FOOD	Indications	FOOD	Indications
Pineapple, canned, in juice	© B ₉	Plantain, yellow, raw	B _e B _a C ⊚ 🗑 😵
Plum, canned	© B ₉	Date	B ₉ 😩 🕲 👰
Jackfruit, raw	© B ₉	Raisin	© B ₉ € ↔
Blueberry	B ⁹ ©	Fruit paste	C B ₉ ⓒ € 🏵



Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Restrict, occasionally / in small quantities



FOOD	Indications	FOOD	Indications
Corn starch	Be Be Ee Ca Mg	Buckwheat flour, whole groat	
Barley	Be Be Ee Ca Me	Millet	₩ B6 B9 Fe) Ca) M9
	Se B6 B9 Fe Ca M9	Brown rice	
Rye	(S)	Wholewheat flour	B9 Fe Ca Mg Se
Barley flour	Be Be Ee Ca Mg	Whole bread, toasted	Be Be Ca Mg
Rye flour	B6 B9 Fe Ca M9 Se	Wheat flour	B9 Fe Ca Se
Quinoa	B6 B9 E Fe Ca	Tortilla-Corn	
	⊕ B ⁶ B ⁹ Fe Ca M9	Quinoa, cooked	B ₉ © Mg
Wheat, bran	Se	Oat	B9 Fe Ca Mg Se
Corn flour	Be Be Ca Mg Se	Wholewheat bread	Be Be Ee Ca Mg Se
Sorghum	Be Be Ee Ca Mg Se	Teff flour, whole grain, Bobs Red Mill Natural foods, Inc	# Fe Ca
Sorghum flour, whole grain	Be Be Ee Ca Mg		I
Buckwheat	B6 B9 Fe Ca Mg Se		

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FOOD

Crackers, melba toast, wheat

Amaranth flour, organic, Bobs Red Mill Natural foods,

> Oat flour, Bobs Red Mill Natural foods, Inc

> > Casava Flour

Corn flour, organic, Bobs Red Mill Natural foods, Inc.

Pasta, homemade, made with egg, cooked

Brown rice flour

Gluten-free pizza crust, **Smart Flour Co**

Rye bread

Tortilla- Brown rice

Black rice, cooked

Indications











Egg-free pasta

Flax, seeds

Pasta, whole, cooked

FOOD

Pasta, filled with meat, boiled

Gluten-free crackers, plain

Gluten-free crackers, multiseeded, multigrain

Gluten-free crackers, Multigrain crisps, Crunchmaster

Gluten-free lentil crackers, ancient grain, Halal Company

> Gluten-free lassic white bread, Schar

> > Rice, boiled

Crackers

Indications











B9 (Ca)















































Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency



FOOD

Rice, brown, cooked, no added fat

Gluten free bread

Gluten-free Bread

Gluten-free Sourdough bread, Cooks

Wheat germ

Tortilla-Flour

Tortilla-whole grains flours brn rice, corn, amaranth, quinoa, millet, teff

Oat flour

Gluten-free crackers, organic, Marys Gone Crackers

Gluten-free rice, multi seed, thin crackers, Back To **Nature**

Barley bread

Indications

































































FOOD

Gluten-free omega flax bread

Gluten-free pretzels, deli style, everything spice, Snack Factory, Inc

Gluten-free bread crumbs, **Schar**

Breadcrumbs

Gluten-free crackers, Back to

Gluten-free pizza crust mix, Bob's Red Mill Natural foods,

Gluten-free bread & pizza crust mix, The King Arthus Flour Co

Gluten-free pizza crust, The Gluten Free Food Group, LLC

Gluten-free flat bread pita, by Production House, Inc.

> Gluten-free crackers, 6 whole grain & 4 seed, The Perfect 10, Vans

Gluten-free artisan baker 10 grains & seeds bread, Schar

Indications

















































Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency



FOOD

Gluten-free 7 grain bread, Kroger co.

pizza crust cauliflower

Almond flour

Gluten-free challah bread, **Gluten Free Bake Shop**

Gluten-free pizza crust, Wegmans Food Markets, Inc

Oat bread

Corn bread

Gluten-free crackers, table crackers, Schar

Gluten-free Entertainment crackers, Schar

Gluten-free baked cheddar bunny tails baked crackers

Bar, "Clif bar", Clif Inc

Indications

















































FOOD

Cereal, GoLean Crunch, Kashi

Bar, dark chocolate mocha almond bar, Luna Inc

Cereal, Honey Vanilla Crunch organic gluten free, **Cascadian Farms**

Raisin pudding

Gluten-free multigrain sandwich bread, Whole Foods Market, Inc.

Granola

gluten free multigrain bread

Gluten-free Whole grain bread soft & hearty, Udi's

Bar, Z bar, Clif Inc

Cereal, Apple Cinnamon, Kind, Inc

Bar, Fruit & Nut, Kind, Inc.

Indications































































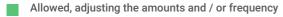












Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency



FOOD

Gluten-free animal crackers, Simple Truth by Kroger Co

> **Gluten-free Original** sandwich bread, Rudi's

Gluten-free White Soft & Delicious Sandwich Bread

Cereal, Honey Almond, Kind,

Indications



























FOOD

Cereal, Dark chocolate almond, Kind, Inc

Cereal, Cranberry almond, Kind, Inc

Bar, Energy Bar, Clif Inc

Indications



























Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Fish and derivatives



FOOD	Indications	FOOD	Indications
Tuna	B6 B9 B12 D Ca Se	Seabass	B6 B9 D © Se 🛅
Cod	B6 B9 B12 D ©a Se	Swordfish	B6 B9 B12 D E Ca Se (sa)
Halibut	B6 B9 B12 D ©a Se	Trout, smoked	A B ⁶ B ⁹ B ¹² D E
Monkfish, grilled	B6 B9 B12 ©a Se		
	B6 B9 B12 D ©a Se	Pike, baked	B9 B12 D © Se 🛅
Tuna, canned in water		Salmon	B ⁶ B ⁹ B ¹² D ©a Se
Pout	B6 B9 B12 ©a Se	Trout	B ⁶ B ⁹ B ¹² D E ©
Tuna, baked	B6 B9 B12 D ©a Se	Hout	Se) H
Tulla, bakeu		Sardine in tomatoes	B6 B9 B12 D E Fe (Ca) Se (A) (A)
Whiting, frozen	B ⁹ B ¹² D ©a Se		
Cod, smoked	B ⁹ B ¹² D © S ● ∏	Cod, fresh, baked	B ¹² B ⁹ © Se III
Grouper, griddle	B6 B9 (a) (Se)	Sea bream	B ⁶ B ⁹ B ¹² D ©a Se
Grouper, griddie	Be Be (ca) (se)		
Perch	B ⁹ B ¹² D ©a Se	Perch, baked	B ⁹ B ¹² D © Se
	1	Sole, baked	B ⁹ B ¹² D © Se

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Fish and derivatives



FOOD	Indications	FOOD	Indications
Hake	B6 B9 B12 Fe Ca M9 Se Fi Far	Carp, baked	B6 B9 B12 D ©a Se
Smoked salmon	B6 B9 B12 D ©a Se	Dogfish	B6 B9 B12 D Ca M9 Se A A
Mullet	B6 B9 D © Se	Salmon, griddle	B6 B9 B12 D Ca Se
Sardine, roasted	B6 B9 B12 D E Fe (a) (Mg) (Se) (III) (A) (A)	Herring, salted	B6 B9 D E Fe Ca
Anchovy cooked	B ⁹ B ¹² D E Fe Ca M9 Se	Mackarel	B6 B9 B12 D Ca M9 Se (A) (A)
Flounder, steamed	B ⁹ B ¹² D © Se III	Mackerel, canned in oil, drained	A B ⁹ B ¹² D Ca Se
Codfish, fried	B ¹² B ⁹ © S	Sardine	© B ⁹ B ¹² D E Fe Ca Se
Caviar	E Fe Ca Mg Se III	Mackerel, baked	B6 B9 B12 D E Ca
Anchovy Swordfish baked	B ⁹ B ¹² F ⁹ Ca S ⁹ B ⁹ B ¹² D E Ca A	Swordfish, griddle	B ⁶ B ⁹ B ¹² D E € € € € € € € € € € € € € € € € € €
Tuna, griddle	B ₀ B ₀ D C ₀ S ₀ H	Ray	B6 B9 B12 Ca Mg Se
		Herring, smoked	B6 B9 B12 D ©a Se

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Fish and derivatives



Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency



FOOD	Indications	FOOD	Indications
Turkey, breast, without skin, grilled	B6 B9 B12 ©a Se	Liver, chicken	A B ⁶ B ⁹ B ¹² C Fe
Liver, pork	A B ⁶ B ⁹ B ¹² C Fe Ca Se	Chicken luncheon meat	Ba Be © @ @ W
Ostrich, sirloin	B6 B9 B12 Fe Ca Se	Pork, rib	B12 B6 (Ca) (Se) (FAT)
Turkey	B6 B9 B12 ©a Se 🖺	Pork, sirloin, roasted	B12 B6 (Ca) (Se) (AT)
Beef, part n/s, roasted, with separable fat	B6 B9 B12 Fe Ca Se	Ham, roasted	B12 B6 ©a Se 🔊
Beef, rump steak, barbecued,	B6 B9 B12 Fe Ca Se	Chicken, leg, with skin, roasted	B6 B9 B12 Ca Se (AT)
lean	FAT	Veal, rib, with separable fat	B6 B9 B12 Ca Se FA
Pork, loin	B12 B6 ©3 Se	Quorn, pieces, as purchased	В9 ∰ 🖺
Beef, heart, cooked	B6 B9 B12 Fe Ca Se	Turkey, leg, with skin	B6 B9 Fe Ca Se FAT
Liver, beef	A B ⁶ B ⁹ B ¹² D Fe	Beef, sirloin steak, grilled rare, lean	B6 B9 B12 Ca Se A
Beef, rump steak, barbecued, lean and fat	B6 B9 B12 Fe Ca Se	Burger, beef, 98-99% beef, grilled	B ⁶ B ¹² D F ^e C ^a S ^e
	Do Do Do		I

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FOOD	Indications	FOOD	Indications
Vegetarian sausage patties, Morningstar Farms	B6 B12 Fe Ca Fill FAT	Pork, loin, roasted	B6 B9 B12 D ©a Se
Veggie Burgers "grillers" by Morningstar Farms	B6 B12 Fe Ca Fi Far	Cooked ham	B6 B9 B12 D ©a Se
Mincemeat		Pork, shoulder, cooked, lean and fat eaten	B6 B9 B12 D © Se
Pork, chop	B6 B12 ©3 Se	Cured pork, loin	B6 B9 B12 Ca Se (AT)
Chicken, breast, grilled	B6 B9 © Se 🖺 🔊	Cureu pork, form	
Oxtail	B6 B9 B12 (a) (a) (b)	Turkey, breast, with skin	Be Be Ca Se (A)
Veal, sirloin, roasted, with separable fat	B6 B9 B12 Ca Se FAT	Veal, loin, with separable fat	B6 B9 B12 ©3 Se (A)
Beef, part n/s, stewed, with separable fat	B6 B9 B12 Fe Ca Se	Bacon, smoked, grilled	B6 B12 Ca Se III (AT)
Chorizo	B6 B9 B12 D Fe Ca Se A A A A A A A A A A A A A A A A A A A	Quail, cooked	B6 B9 Fe Ca Se Fill
Heart, lamb	B ⁹ B ¹² (Fe) (Ca) (Se) (FAT)	Beef, sirloin steak, grilled rare, lean and fat	B6 B9 B12 © FAT
Beef, sirloin, grilled	B6 B9 B12 Fe Ca Se	Liver sausage, liverwurst, pork	A B ⁹ B ¹² Fe Ca Se
	1	Foie gras	A B ⁹ B ¹² (a) (a) (b)

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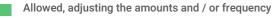


FOOD	Indications	FOOD	Indications
Turkey luncheon meat	B9 B6 ©a Se [ii	Chicken, with skin, roasted	Be Be Ca Se FAT (
Salami	B ⁶ B ¹² D © Se III	Sausage, smoked link sausage, pork	B ⁹ B ¹² D Ca Se III
Vegetarian sausage patties, maple, Morningstar Farms	B6 B12 Fe Ca A FAT	Sausage, fresh	B6 B9 B12 ©
Bacon	B6 B12 Ca Se FAT	Lamb, rib	B ⁹ B ¹² Ca Se III (A)
Rabbit, stewed	B6 B9 B12 ©3 Se	Lamb, not specified part	B9 B12 Ca Se III FAT
Cooked ham, canned	B6 B9 B12 © Se III	Hen	Be Be Ca Se III FAT
Chicken, breast, with skin	B6 B9 ©3 Se [1] [FAT]	Polish sausage, pork	B9 B12 Ca Se III FAT
Turkey or chicken sausage, reduced sodium	B6 B9 Se ∄ 🙀		
Vegetarian burger spicy black bean	Ca (FAT)	Sausage	B ⁹ B ¹² D © Se
Pork sausage	B ⁹ B ¹² D © Se	Burger, beef, 62-85%, beef, grilled	B ¹² Fe Ca H FAT 6
Chicken, wing, with skin	Be Be Ca Se FAT D	Bologna	B ⁹ B ¹² D Ca Se III
	'	Pork and beef sausage	B ⁹ B ¹² D Ca Se ∏

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FOOD FOOD Indications Indications (Ca) (Se) Pork, not specified part Duck, roasted Vegetarian burger "meat B9 B12 (Ca) (Se) lovers" by Morningstar farms Pork luncheon meat foods Inc. Sausage, smoked, Chicken and bread Sausages, beef, grilled Sausages, vegetarian, **Chicken croquettes** baked/grilled



Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Nuts and seeds



FOOD	Indications	FOOD	Indications
Lupin	Be Be Ee Ca Mg Se Mg	Peanut, toasted, salted	⊕ Be Be E □⊕ □⊕
Brazil nuts, kernel only		Pumpkin seeds	⊕ B9
Brazil nut		Pine nut	B9 E Fe Ca Mg
Hazelnut	⊕ B6 B9 E	Pecan nuts, kernel only	B9 E Fe Ca Mg Se A D
Sweetened almond milk	B ⁹ D E ©	Unsweetened almond milk	D B ⁹ E © (a)
Sesame, seed	Mg Se M	Cashew nut	B6 B9 Fe Ca Mg Se
Walnut	(Mg) (Mg) (B6 B9 Fe) (Ca)	Bar, Nuts over Chocolate, Luna, Inc.	A B ⁶ B ⁹ B ¹² C D E Fe Ca Mg Se A
Macadamia Nut		Peanut butter, smooth	 ⊕ Be Be E
Almond	B9 E Fe Ca M9	Pistachio nut	© (%) B6 B9 E (€)
Almond, toast	⊕ B9 E	Chestnut	Be Ba C @ F
Peanut, unsalted	(Mg) (Mg) (B6) B6 B9 E (G9)	Chestnut, roasted	Be Ba C ⊚ 💣 🏵

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Nuts and seeds



FOOD

Bar, Fruit, Nut & Veggie bar, Naked

Bar, Almond, Kind Inc.

Bar, Peanut Butter Dark Chocolate, Kind Inc **Indications**



















FOOD

Cashew Milk

almond creamer, by Danone Us, LLC

Bar, Protein, Kind, Inc.

Indications





















Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Shellfish and derivatives



FOOD	Indications	FOOD	Indications
Cuttlefish	A B ⁶ B ⁹ Fe Ca Mg	Scallop	B ₁₂ B ₉ © Se III
Octopus, boiled	B6 B9 B12 Fe Ca Se	Mollusks, blue mussel, cooked, moist heat	B ⁹ B ¹² C (Fe) (Ca) (Se)
Cockles	Fe Ca	Mussel, canned in brine	B ⁹ B ¹² C Fe Ca Mg Se H
Crab	B ⁹ B ¹² E © Se III	Mussel, boiled	B ⁹ B ¹² C Fe Ca Mg
Lobster, boiled	B ¹² B ⁹ © Se H		B9 B12 E Fe Ca Mg
Crayfish	B12 B9 (ca) (Se) 🗂	Snail	Se AT FAT
Clams	B ⁹ B ¹² ©a Se	Oyster	B ⁹ B ¹² (Fe) (Ca) (Mg) (Se)
Squid, roasted	B ¹² B ⁹ © Se [1]	Scampi or langoustine	© <u>f</u>
Shrimp, boiled	B ¹² B ⁹ © Se	Variegated scallop	B9 B12 Ca Mg Se III

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- Restrict, occasionally / in small quantities

Eggs and derivatives



FOOD	Indications	FOOD	Indications
Egg, duck	A B ⁶ B ⁹ B ¹² D Fe (a) Se (ii) (a) (b)	Egg, chicken, white	A B ⁹ B ¹² D ⓒ ⓒ ⓒ
Egg, turkey	A B ⁹ B ¹² Fe Ca Se	Egg, chicken, fried	 ♠ A B⁹ B¹² D ♠ ♠ ♠ ♠
Egg, quail	A B ⁹ B ¹² D Fe Ca Se ∰ (A) (A)	Omelette	A B ⁹ © 11 FAT
Egg, chicken, boiled	A B ⁹ B ¹² D © Se	Egg, chicken, poached	A B ⁹ D Ca Se fill

- Allowed, adjusting the amounts and / or frequency
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Milk and derivatives



FOOD	Indications	FOOD	Indications
Milk, skimmed, pasteurized	B ⁹ B ¹² D ©a	Camembert cheese, 20-30% fidm	A B6 B9 B12 © Se
Soy Yoghurt	© Be © M	Greek yoghurt, plain	B12 B9 ©a) Se) 🔊
Almond milk	B ⁹ D E ©	Cheese Feta	A B ⁶ B ⁹ B ¹² © ₃ Se
Milk, semi-skimmed, pasteurized	B ¹² B ⁹ D ©a 🙀	onede reta	
Cottage cheese	B ¹² B ⁹ © Se	Coconut milk	D B ¹² © (A)
Yoghurt, skimmed, vanilla flavour	B ⁹ B ¹² D ©a	Cream cheese spread, fat free	B ¹² B ⁹ ©
Milk	D B ¹² ©a FAT	Gouda cheese	A B ⁹ B ¹² Ca Se fi
Kefir	A B ⁹ D ©	Fresh cheese	A B ⁹ B ¹² D © Se
Egg custard	B6 B9 B12 © Se [ii	Yoghurt, skimmed, plain flavour	B9 B12 D ©a
Clarified butter	B6 D E © (A)	Cheese, fresh, queso fresco	A B ⁹ B ¹² D © S S S S
Brie cheese	A B6 B9 B12 Ca Se	Gruyere cheese	A B ⁹ B ¹² Ca Se III
		Blue cheese	A B9 B12 Ca Se fi

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Milk and derivatives



FOOD	Indications	FOOD	Indications
Cheddar cheese	A B ⁹ B ¹² © Se	Cheese, edam type	A B ⁹ B ¹² Ca Se III
Mozzarella cheese	A B ⁹ B ¹² © Se	Cheese spread	A B ⁹ B ¹² Ca
Parmesan cheese	A B ⁹ B ¹² © Se ÎÎ	Cream 18% fat	A B ⁹ © (A)
	A B ⁹ B ¹² © Se fin	Cream 30% fat	A B ⁹ © 60
Grated cheese, parmesan	A B ⁹ B ¹² © Se 🗂	Monterey Jack- Cheese	A B ⁹ B ¹² Ca Se [iii]
Cheese fondue	(FAT)		A B ⁹ B ¹² Ca Se A
Provolone Cheese	A B ⁹ B ¹² © Se	Pepper Jack - Cheese Almond milk yogurt, vanilla,	
Goat's milk	D B ₉ © EAT	by Dahilicous Coconut milk yogurt, WWf Operating Company	(Ca) (FAT) (Ca) B12 (FAT)
Sheep's milk	© B9 FAT	Nutritional drink or shake,	B ⁶ B ⁹ B ¹² C D E
Yoghurt mousse, plain	B ₉ C ₉	liquid, soy-based	Ca) (FAT)
Liquid yoghurt	B ⁹ B ¹² D ©a	Coconut milk creamer, organic	(PAT)
Milk, goats, pasteurised	©a Ba END	Goat cheese, cured	A B ⁹ © 🖺 🔊

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Milk and derivatives



FOOD

Indications

Emmental cheese



Goat cheese, uncured

Roquefort cheese





Yogurt parfait, low fat, with fruit and granola

B6 B9 B12 C





Cheese, hard cheese, pecorino, sheep milk



Sour cream









Yoghurt, skimmed, flavoured n/e

Asedero Cheese





Milk, semi-skimmed, dried







Yoghurt, skimmed, with fruits





FOOD

Yogurt, NS as to type of milk, fruit (contain jams)

Cream, half and half

Yoghurt mousse, with fruits

Cream cheese spread, light

Almond milk yogurt, organic, by Dahlicious

Almond milk yogurt, organic, blueberry, by Dahlicious

> Yogurt, greek, strawberry, low fat

> > Swiss spread cheese

Almond milk yogurt, strawberry, Lyrical foods, Inc.

Indications





































Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Oils and fats



FOOD	Indications	FOOD	Indications
Wheat germ oil	E (F)	Soya, oil	
Olive oil	E FAT O	Flaxseed oil	FAY
Extra virgin olive oil	E FAT O	Pork lard	D (FAT)
Extra virgin olive oil, organic	E FAT O	Walnut oil	
Palm oil	E FAT O	Mayonnaise light	№ B ⁹ E ⓒ 🖺 🔊
Coconut oil	FAT	Butter with salt	A B ⁹ ©
Cod liver oil	♠ A D ♠ ♠		1

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- Restrict, occasionally / in small quantities

Tubers and derivatives



FOOD	Indications	FOOD	Indications
Red potatos, baked	Be Be C ©	Sweet potato, baked, flesh, cooked	B ₉ B ₆ C ©
Potato, red, flesh & skin, baked	Be Ba C ©	Potato, cooked, fat added	Be Ba C © Se III
Potato, russet, cooked in skin, microwaved	B ₀ B ₀ C © 🖳	Potato, roast	B ₀ B ₀ C © 🗓
Parsnip	B ₉ C ©	Potato, boiled	B ₀ B ₀ C © III
Arrowroot flour	B 9 ©	Beetroot, canned	© B ₉ 🖳
Sweet potato	A B ⁹ ©	Sweet potato, flesh only, boiled in unsalted water	A B ₀ ©
Tapioca flour, organic, by The Hain Celestial group, Inc		Sweet potato, baked	A B9 C 🖾 🖳 👭



Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Sauces and condiments



FOOD	Indications	FOOD	Indications
Mint, fresh	A B ⁹ C Fe Ca	Apple vinegar	Ca
Jalapeno Peppers	B ₆ B ₉ C E ©	Wine vinegar	Ca
Chili or hot pepper	B6 B9 C E ©	White pepper	⊕ B9 C Fe © M9
Oregano, dried	₩ ₉ B ⁶ B ⁹ E F ₉ C ₉	Bay, leaf	© M9 A B6 B9 C Fe
Carlia navrdar	₩ B6 B9 Fe Ca Mg	Ginger	B ₉ ©
Garlic, powder Cinnamon, powder	Se) ■ B9 E Fe) Ca) Mg)	Thyme, dried	(Fe) (Ca) (Mg) (FAT)
Parsley, fresh	A B ⁹ C (Fe) (Ga)	Fennel	B 9 ©
Rosemary	⊕ A B ⁶ B ⁹ C ⊕	Chili pepper, red	Be Be C ©
Rosellialy	Ca Mg (A)	Chili pepper, green	B ₆ B ₉ C ©
Black pepper	⊕ Be Be Ee	Sea salt	
Basil	A B ⁹ C Fe Ca Mg	lodized salt	
Dill, dried	A B ⁶ C Fe 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

Sauces and condiments



FOOD	Indications	FOOD	Indications
Saffron	B6 B9 C Fe Ca M9	Pesto sauce	B ⁹ E © M ⁹ n
Sauce, peppers, hot, chili, mature red, canned	B ₉ C ©	Curry sauce	⊕ B ⁹ E ⊕ n
Soya, sauce	© B ⁹ № 11	Gomasio	⑤ ∰ B9 € €⑥ ∰ ⑥
Curry	Se A B ⁹ B ¹² D Ce A	Peppers, hot chile, sun-dried	 ♣ A B⁶ B⁹ C ♠ Ca Mg ♠ ♠
Bechamel sauce	(FAT)	Vanilla	
Tahini		Cheese sauce	⊕ B9
Cumin	⊕ B6 B9 E → □□ □ □ □	Fried green tomatoes	
Mustard	B9 © Se 🖺 🔊 🚳	Balsamic vinegar	
Nutmeg	B9 Fe Ca Mg A	Tomato chili sauce	B9 C E @ 🖺
Tabasco, sauce	B9 (G) (Paprika, powder	⊕ A B⁶ B⁹ E□ ⊕ ⊕
Bolognese sauce	A C II (A)	Sweet and sour sauce	© B ₉ 🗑 🏵

- 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

Sauces and condiments



FOOD

Indications

Ketchup

Barbecue sauce

FOOD

Vinaigrette sauce, with olive

Cheese sauce mix, dry

Indications

















Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Sugars and derivatives



FOOD

Indications

FOOD

Indications

Honey







Gelatin Desserts Dry Mix Prepared With Water







Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Snacks



FOOD

Indications

- - - -

60 (

Ca) (Mg)

FOOD

rn chine

Indications

Ε





Allowed, adjusting the amounts and / or frequency

Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Non-alcoholic beverages



FOOD	Indications	FOOD	Indications
Carrot, fresh juice	A B6 B9 ©	Coffee, powder	Fe Ca Mg Se
Tap water	Ca	Coconut Water	Ca
Mineral water	(Ca)	Coffee infusion, with milk	B ⁹ ©
Sparkling water, bottled	Ca	Tomato, fresh juice	C B ₉ © 🗓
Coffee, seed or powder, decaffeinated		Sport drink	
Coffee, brewed, decaffeinated		Soluble coffee, powder	B 9
Coffee, substitute, instant		Coffee, brewed	B 9
Infusion, tea, herbal	B ⁹	Soy milk	B ¹² B ⁹ D © FAT
Lemon juice, fresh	B ₉ C ©	Orange juice	B ₆ B ₉ C
Tea, without sugar		Tea infusion, with milk	B ⁹ ©
Tea - without sugar	B ₉ ©	Non-alcoholic beer	B ⁹ ©

- 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	FOOD	Indications
Carbonated drink, lemon		Grapefruit juice	B ₉ C ©
Blackcurrant juice	C ©a	Cranberry juice	© C ■
Apple juice	Ca	Lemonade	B ₀ €
Pineapple juice	B ⁹ C ©	Fruit juice	© C 🖳



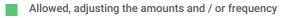
Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency

Alcoholic beverages

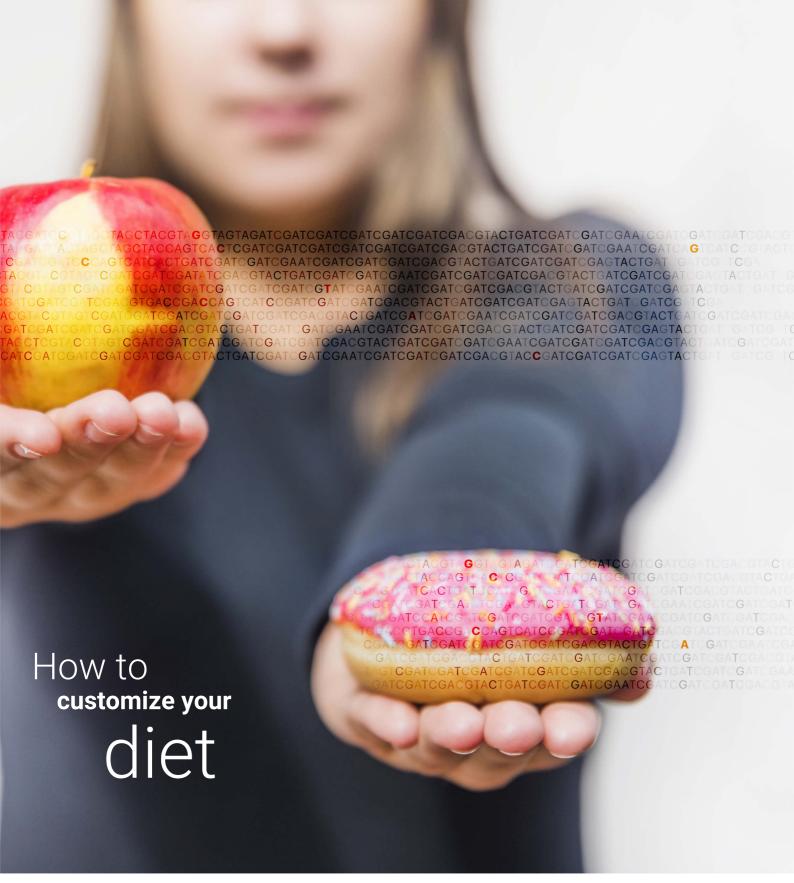


FOOD	Indications	FOOD	Indications
Cognac	9	Whisky	9
Gin	9	Stout, Guinness	
Rum	9	Sparkling wine, cava type	
Tequila	9	Beer	
White wine	B 9 €	Beer, low alcohol	
Wine, rose	B 9 €	Sidra	
Red wine	B 9 €3	Sangria	
Vodka	9	Fruit liqueur	9 a &



Allowed without raising the recommended quantities and / or frequency

Reduce the amount and / or frequency



- · 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 target food with another kind of food in the same food group that is recommended in more amounts/frequency
- Continue enjoying your Nutrigen™ plan and be constant

You can do it.





IV. Complete genetic results

Patient name: William Wellness Reception date: 02-17-2023
Sample code: NUT16919AA Results date: 02-20-2023



Genetic risk of overweight/obesity

- MEDIUM-LOW 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	СС	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.
FT0-1	rs9939609	TT	LOW	Normal risk of obesity.
FT0-2	rs1121980	GG	LOW	Normal risk of obesity.
MC4R-2	rs17700633	GG	LOW	Normal risk of obesity.

INDICATIONS





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

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Risk of increased BMI

- MEDIUM-LOW 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	AG	MEDIUM	Increased risk of increased BMI, increased waist circumference, and insulin resistance.
MC4R-4	rs17782313	тс	MEDIUM	Increased risk of increased BMI, increased waist circumference, and insulin resistance.
SH2B1-1	rs4788102	GG	LOW	Normal risk of increased BMI.

INDICATIONS





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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
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Basal metabolic rate (burn calories at rest)

- 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	СТ	LOW	Predisposition to decreased resting metabolic rate.
LEPR-4	rs2025804	GG	LOW	Predisposition to decreased resting metabolic rate.

INDICATIONS





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

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Weight loss capability during diet interventions

- SLOW 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	СС	LOW	Predisposition to slow 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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Behavioural genetics in food intake

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	СС	HIGH	Predisposition to binge eating.
DRD2-2	rs6277	AA	HIGH	Predisposition to binge eating.

INDICATIONS



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 professional evaluation is recommended.

Patient name: William Wellness Sample code: NUT16919AA

Reception date: 02-17-2023

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Results date: 02-20-2023



Behavioural genetics in food intake

Satiety: Feeling Full

- NORMAL 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
FT0-1	rs9939609	тт	LOW	Predisposition to normal satiety.

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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Exercise to reduce body fat

- MEDIUM-LOW 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
FT0-1	rs9939609	TT	LOW	No predisposition to lose fat during physical exercise.
FT0-2	rs1121980	GG	LOW	Predisposition to not lose fat during physical exercise.
LIPC	rs1800588	СТ	MEDIUM	Slight 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).

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Response to polyunsaturated fats (PUFAs)

- FAST 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	СС	HIGH	Predisposition to improve lipid profile (LDL and total cholesterols) and reduce BMI in response to a PUFA-rich diet.
FADS1	rs174547	СТ	MEDIUM	Age-related predisposition to slightly reduced PUFA biosynthetic capacity and lower plasma omega 3 concentration.

NDICATIONS



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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



Response to fat intake to improve the HDL levels

- MEDIUM-HIGH 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	СТ	MEDIUM	Slight predisposition to improve HDL cholesterol levels in response to low fat diet.

INDICATIONS







A low fat diet should aid in increasing HDL levels.





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



MEDIUM-LOW EXPECTED BENEFITS

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



VERY LOW EXPECTED BENEFITS

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

Patient name: William Wellness Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023



5. Carbohydrate metabolism

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	СС	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 expected 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 expected 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 may be beneficial to decrease starch intake.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023



5. Carbohydrate metabolism

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	СТ	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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023



5. Carbohydrate metabolism

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 should 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 may 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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



5. Carbohydrate metabolism

Carbohydrates and LDL levels

- HIGH RISK OF DYSREGULATION -



ABOUT

Effect of carbohydrate intake in the regulation of cholesterol levels.

MARKER	Locus	VARIANT	RISK	DESCRIPTION
ММАВ	rs2241201	GG	HIGH	High risk to increase LDL-cholesterol levels and decrease HDL-cholesterol levels in response to high intake of carbohydrates.

INDICATIONS





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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
Results date: 02-20-2023



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	СС	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

- HIGHLY INCREASED TRIGLYCERIDES -



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	СС	HIGH	Predisposition to increased 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.

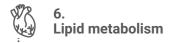


HIGHLY INCREASED TRIGLYCERIDES

High predisposition to increased triglyceride levels

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023



Predisposition to increased oxidation of LDL

- SLIGHTLY 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	AG	MEDIUM	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 considered

Patient name: William Wellness
Sample code: NUT16919AA

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Risk of increased cholesterol LDL levels

- INCREASED LDL LEVELS -



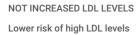
ABOUT

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	AA	HIGH	Predisposition to increased LDL cholesterol levels.
LDLR	rs6511720	GG	HIGH	High risk of increased LDL cholesterol levels.
ABCG8	rs6544713	СС	LOW	High risk of increased LDL cholesterol levels.

INDICATIONS







SLIGHTLY INCREASED LDL LEVELS Moderate risk of high LDL levels

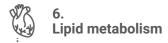


INCREASED LDL LEVELS
High risk of high LDL levels.



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

Patient name: William Wellness Sample code: NUT16919AA Reception date: 02-17-2023
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Risk of unbalanced Triglycerides/HDL ratio

- SLIGHLTLY 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	СТ	MEDIUM	Predisposition to slightly higher triglyceride (TG) levels, and increased 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.

Patient name: William Wellness
Sample code: NUT16919AA

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Risk of increased glucose levels in plasma after fasting

- 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	СС	HIGH	High risk of increased plasma glucose levels after fasting.
GHSR	rs490683	GG	HIGH	High risk of increased plasma glucose levels after fasting.

INDICATIONS







MEDIUM-LOW RISK OF HIGH GLUCOSE LEVELS

Normal or slightly increased fasting plasma glucose levels.



MEDIUM-HIGH RISK OF HIGH GLUCOSE LEVELS

Increased fasting plasma glucose



HIGH RISK OF HIGH GLUCOSE LEVELS

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

Patient name: William Wellness
Sample code: NUT16919AA

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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	СС	HIGH	High predisposition to insulin resistance.
ADIPOQ	rs17300539	GG	HIGH	High predisposition to insulin resistance.
TCF7L2-2	rs7903146	СС	LOW	No predisposition to insulin resistance.
FT0-1	rs9939609	TT	LOW	No predisposition to insulin resistance.
FT0-2	rs1121980	GG	LOW	No predisposition to insulin resistance.

INDICATIONS







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

Patient name: William Wellness Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023



Risk of Type-II diabetes

- MEDIUM-LOW 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	СС	HIGH	Increased risk of diabetes type 2.
PLIN1	rs2289487	СС	HIGH	Increased risk of type 2 diabetes.
TCF7L2-2	rs7903146	СС	LOW	Normal risk of diabetes type 2.
FTO-1	rs9939609	TT	LOW	Normal risk of diabetes type 2.
MC4R-2	rs17700633	GG	LOW	No predisposition to obesity and type 2 diabetes.
CDKN2A/B	rs10811661	СТ	HIGH	High risk of type 2 diabetes.
KCNQ1	rs2237892	СС	HIGH	Increased risk of type 2 diabetes.
CDKN2A, CDKN2B	rs2383208	AG	MEDIUM	Increased risk of type 2 diabetes.
CDKAL1	rs7756992	AA	LOW	Normal risk of type 2 diabetes.
TCF7L2-1	rs7901695	ТТ	LOW	Normal risk of type 2 diabetes.

INDICATIONS







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.

Patient name: William Wellness Sample code: NUT16919AA Reception date: 02-17-2023
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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.

MARKE	R LOCUS	VARIANT	SENSITIVITY	DESCRIPTION
TAS2R3	rs1726866	AG	NORMAL	Predispositon to normal sensitivity to bitter taste.
TAS2R3	-2 rs713598	GC	NORMAL	Predispositon to normal sensitivity to bitter taste.

INDICATIONS





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



SLIGHTLY INCREASED

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



INCREASED

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



HIGHLY INCREASED

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

Patient name: William Wellness
Sample code: NUT16919AA

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Salt sensitivity

- 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	AA	LOW	Predisposition to normal salt sensitivity.

INDICATIONS





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.

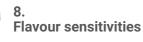


HIGH SALT SENSITIVITY

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

Patient name: William Wellness
Sample code: NUT16919AA

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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.

Patient name: William Wellness Sample code: NUT16919AA Reception date: 02-17-2023
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Antioxidant capability - NORMAL 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	GG	HIGH	Predisposition to normal hydrogen peroxide detoxification.
NQ01	rs1800566	GA	MEDIUM	Predisposition to reduced NQ01 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	GA	HIGH	Predisposition to normal hydrogen peroxide detoxification.
CYP1B1	rs1056836	CG	MEDIUM	Predisposition to increased CYP1B1 activity which could result in an increased accumulation of carcinogenic products.
CYP1A1-2	rs1048943	TT	HIGH	Predisposition to normal CYP1A1 enzyme activity.
GSTP1	rs1695	AA	HIGH	Predisposition to normal GSTP1 activity.

INDICATIONS





Normal capacity of metabolizing free radicals and cellular toxins.



SLIGHTLY REDUCED ANTIOXIDANT CAPABILITY

Slightly reduced capability of metabolizing free radicals and cellular



REDUCED ANTIOXIDANT CAPABILITY

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



LOW ANTIOXIDANT CAPABILITY

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

Patient name: William Wellness
Sample code: NUT16919AA

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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	GG	LOW	Predisposition to normal vitamin D levels and calcium absorption.
GC	rs2282679	тт	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.

Patient name: William Wellness
Sample code: NUT16919AA

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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	CG	MEDIUM	Predisposition to slightly increased serum levels of calcium.
CYP24A1	rs1570669	AG	MEDIUM	Predisposition to slightly 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	тт	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.

Patient name: William Wellness
Sample code: NUT16919AA

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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. Before implementing supplementation or dietary changes, consult your physician for further analysis



MEDIUM-HIGH RISK O FHEMATOCHROMATOSIS

Medium risk of having increased iron absorption on high iron intake. Before implementing supplementation or dietary changes, consult your physician for futher analysis.



HIGH RISK OF HEMATOCHROMATOSIS

High risk of having increased iron absorption on high iron intake. Before implementing supplementation or dietary changes consult your physician for further analysis.

Patient name: William Wellness
Sample code: NUT16919AA

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Risk of low iron plasma levels

- MEDIUM-HIGH 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	AA	HIGH	Predisposition to increased serum ferretin and reduced serum iron levels.
TMPRSS6	rs4820268	AA	LOW	Predisposition to normal serum iron levels.
TF-2	rs8177253	TT	HIGH	Predisposition to increased total 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. Monitor 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. Supplementation may be beneficial

Patient name: William Wellness
Sample code: NUT16919AA

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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	AG	MEDIUM	Predisposition to slightly lower serum magnesium levels.
DCDC5	rs3925584	TT	LOW	Predisposition to normal serum magnesium levels.
MUC1	rs4072037	тт	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.

Patient name: William Wellness
Sample code: NUT16919AA

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Predisposition to dysregulated selenium levels

- NO ADDITIONAL 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	AC	MEDIUM	Predisposition to slightly increased 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.

Patient name: William Wellness
Sample code: NUT16919AA

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Sodium sensitivity

- LOW SODIUM SENSITIVITY -



ABOUT

Inherited risk of dietary salt-induced blood pressure.

MARKER	Locus	VARIANT	SENSITIVITY	DESCRIPTION
ACE	rs4343	AA	LOW	Predisposition to normal sodium sensitivity.

INDICATIONS





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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023
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Lactose intolerance risk

- LOWER RISK OF 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	TT	LOW	Normal predisposition to lactose tolerance.
MCM6-2	rs4988235	AA	LOW	Normal predisposition to lactose tolerance.

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. Consider reducing 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. Recommend moving to lactose-free diet.

Patient name: William Wellness
Sample code: NUT16919AA

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Alcohol metabolism

- NORMAL ALCOHOL METABOLISM -



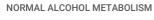
ABOUT

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 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.

Patient name: William Wellness
Sample code: NUT16919AA

Reception date: 02-17-2023 Results date: 02-20-2023

SYMPTOMS OF ALCOHOL INTOLERANCE

Reception date: 02-17-2023

Results date: 02-20-2023

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

- MEDIUM-HIGH 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	Absent	DQ2.5/DQ2.5 = rs2187668 (T/T)	HIGH
DQ2.5/DQ2.2	Absent	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	Absent	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	Absent	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 physician before making any dietary changes).



MEDIUM-HIGH RISK OF CELIAC DISEASE

Carrier of celiac disease risk variants. Try to reduce or avoid glutencontaining 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 physician for further analysis.

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SYMPTOMS (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

- FAST 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	TT	HIGH	Predisposition to fast caffeine metabolism.
CYP1A2	rs762551	AA	HIGH	Predisposition to fast caffeine metabolism.

INDICATIONS





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.

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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.

- ► 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	СС	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. Consider a fructose-free diet.

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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

- VERY 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	СС	HIGH	No 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	TT	HIGH	No predisposition to weight loss induced by a low calorie diet.
ACSL5	rs2419621	СС	HIGH	No 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 lowcalorie diet. It is strongly recommended to follow it.

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Efficacy of low carbohydrate diets

- MEDIUM-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	GG	HIGH	No 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 lowcarbohydrate diet. It is strongly recommended to follow it.

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Efficacy of low fat diets

- VERY 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	СС	HIGH	No 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	AA	HIGH	No 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	СС	HIGH	No predisposition to weight loss induced by a low fat diet.
FT0-1	rs9939609	ТТ	HIGH	No 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 reduce fat 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

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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.

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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	СС	LOW	No predisposition to increased levels of circulating visfatin.

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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.

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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.

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TNF-α

ABOUT

 $\mathsf{TNF}\text{-}\alpha$ 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.

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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.

Patient name: William Wellness Sample code: NUT16919AA Reception date: 02-17-2023
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IL-10

ABOUT

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

MARKE	Locus	VARIANT	RISK	DESCRIPTION
IL-10-1	rs1800896	cc	LOW	Predisposition to higher levels of the anti-inflammatory cytokine IL-10.



Vitamin E

- MEDIUM-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	СС	HIGH	High risk of low plasma levels of alpha-tocoferol (Vitamin E).
ZNF259, LOC100128347, APOA5, SIK3, BUD13	rs964184	CG	MEDIUM	Increased risk of lower 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.

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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	GA	HIGH	High risk of low serum levels of vitamin D.
NADSYN1, DHCR7-1	rs12785878	GT	MEDIUM	Increased risk of lower serum levels of vitamin D.
CYP2R1-3	rs2060793	GA	MEDIUM	Increased risk of lower serum levels of vitamin D.
NADSYN1, DHCR7-2	rs3829251	AG	MEDIUM	Increased risk of lower serum levels of vitamin D.

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.

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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	СС	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.

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Vitamin B12

- HIGH RISK OF VITAMIN B12 DEFICIENCY -



ABOUT

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

MARKER	Locus	VARIANT	RISK	DESCRIPTION
FUT2	rs602662	GG	HIGH	High risk of vitamin B12 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.

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Vitamin B9 (folate)

- 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	GG	LOW	Normal risk of folate deficiency.

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.

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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	СС	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.

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Vitamin A

- MEDIUM-LOW RISK OF VITAMIN A DEFICIENCY



ABOUT

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

MARKER	LOCUS	VARIANT	RISK	DESCRIPTION
BCM01-1	rs12934922	TA	MEDIUM	Increased predisposition to reduced provitamin A conversion and increased fasting β -carotene concentrations.
BCM01-2	rs7501331	тс	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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