



SAMPLE REPORT



Fagron NutriGen™

Patient report



Fagron NutriGen

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SAMPLE REPORT

Patient identification data

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Patient's name and last name — **DEMO 3 WOMAN Formulation**
Date of Birth — **03-03-1996**
Gender — **Female**
Sample type — **Buccal mucosa**
Sample code — **NUT20548AA**
Sample date — **13-03-2024**
Report date — **03-01-2024**

Doctor's name and last name — **Nutrigen 3 Validation**
Email address — **nutrigen_3_validation@demo.com**
Telephone —

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Fagron Genomics, S.L.U. performs genetic tests upon request by healthcare professionals, in relation to biological samples from patients obtained from the healthcare professional. Our tests do not replace a medical consultation, nor do they make up a diagnostic or treatment, nor should they be interpreted this way. Only healthcare professionals can interpret the results of said tests, based on their knowledge of the clinical records of the patients and other relevant factors and, under their responsibility, give a diagnostic or prescribe treatment to the patient. We decline all responsibility derived from the use and interpretation of the results of our tests by the solicitant healthcare professional. Fagron Genomics, S.L.U. expressly reserves any legal actions in case of an inappropriate, negligent or incorrect use or interpretation of the results of our tests. It is the responsibility of the healthcare professional who requests a test to guarantee to the patient the appropriate genetic advice as foreseen by Law 14/2007, of 3rd July, of biomedical research. As Fagron Genomics, S.L.U. does not have access to the personal identifiable information about the patient from whom the sample comes, it is the responsibility of the requesting healthcare professional to comply with the applicable data protection Laws and regulations.



Fagron Genomics,
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IVDD
Self-Declared
98/79/EC

REF FGMS-Nutri

IVD In Vitro Diagnostic Medical Device

UDI 8437024682FGMS-NutriVC

Product version: NutriGen™ 3.0

Report version: Original / 13-03-2024 14:56:27

Nutrigen Report - Patient

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Genetic results overview

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2.1. Morphological genetics for weight control

35.71% Medium-high genetic predisposition to being overweight. In case of overweight or obesity, it is caused mainly by inherited genetics. Following the recommendations of this DNA analysis will improve outcomes.



Genetic risk of overweight/obesity

Risk of rebound weight gain

Risk of increased BMI

Basal metabolic rate (burn calories at rest)

Weight loss capability during diet interventions

2.2. Behavioural genetics in food intake

83.03% Normal behavioural genetics related to food intake and satiety regulation. In case of excessive quantity or compulsive intake, strategies to reduce anxiety such as meditation or even clinical interventions should be considered.



Appetite and anxiety risk

Satiety: Feeling Full

2.3. Flavour sensitivities

33.22% Moderately unbalanced flavour sensitivity. Your body will crave more salt and sugar than average, with associated cardiovascular and obesity risks. Try to incorporate other spices in your diet to reduce the risks.



Bitter taste sensitivity

Salt sensitivity

Sweet flavour preference

2.4. Fat metabolism

51% Moderate fat burning capacity. A healthy fat intake should not be a reason for being overweight.



Response to monounsaturated fats (MUFAs)

Response to polyunsaturated fats (PUFAs)

Response to fat intake to improve the HDL levels

2.5. Lipid metabolism

16.86% Highly affected lipid metabolism. Cholesterol and triglyceride levels may show irregular results in blood analyses. Specific LDL and HDL treatments are recommended. High cardiovascular risk.



Predisposition to reduced HDL levels

Predisposition to increased levels of triglycerides

Predisposition to increased oxidation of LDL

Risk of increased cholesterol LDL levels

Risk of unbalanced Triglycerides/HDL ratio

2.6. Carbohydrate metabolism

31.58% 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

Refined carbohydrate sensitivity

Carbohydrates and HDL levels predisposition

Carbohydrates and LDL levels

INDICATIONS

■ Positive effect

■ Medium-positive effect

■ Medium-negative effect

■ Negative effect

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Genetic results overview

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2.7. Glucose metabolism

35.04% Medium-high dysregulation of glucose metabolism. Intake of refined sugar and carbohydrates will be dangerous. High risk of developing Type-II diabetes.



Risk of increased glucose levels in plasma after fasting

Risk of insulin resistance

Risk of Type-II diabetes

2.8. Efficacy of exercise

12.72% Very low efficacy of exercise to reduce body fat and regulate cholesterol levels. Intensive dietary interventions may be the best option.



Benefits from endurance exercise for improving HDL levels

Exercise to reduce body fat

2.9. Detoxification imbalances

71.19% Slightly reduced detoxification capacities. Try to decrease toxin exposure and intake.



Antioxidant capability

2.10. Intolerance

LACTOSE



Lower risk of lactose intolerance.

GLUTEN



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

FRUCTOSE



Lower risk of fructose intolerance.

CAFFEINE



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

ALCOHOL



Normal risk of alcohol toxicity due to a normal metabolism.

SAMPLE REPORT

INDICATIONS

Positive effect **Medium-positive effect** **Medium-negative effect** **Negative effect**

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Genetic results overview

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2.11. Hormones

LEP

■ **Predisposition to normal levels of leptin leading to normal satiety regulation.**

NAMPT

■ **High predisposition to increased levels of circulating visfatin augmenting considerably the risk of an altered inflammatory response.**

GHSR

■ **Predisposition to normal ghrelin receptor (GHSR) expression. Circulating levels of this hormone and the sensation of hunger are increased.**

ADIPOQ

■ **High predisposition to lower adiponectin plasma levels that leads to an increased inflammation process, lipid abnormalities and insulin resistance.**

ADIPOQ

■ **Increased predisposition to lower adiponectin plasma levels that leads to a slightly increased inflammation process, lipid abnormalities and insulin resistance.**



2.12. Inflammation

TNF- α

■ **Predisposition to average levels of TNF-alpha.**

IL-6

■ **Predisposition to intermediate levels of IL-6. Pro-inflammation.**

IL-10

■ **Predisposition to intermediate levels of the anti-inflammatory cytokine IL-10.**



SAMPLE REPORT

INDICATIONS

■ Positive effect

■ Medium-positive effect

■ Medium-negative effect

■ Negative effect

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Genetic results overview

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2.13. Vitamins

Vitamin A

A

■ **Normal vitamin A metabolism.**
Ensure daily recommended intake.

Vitamin B6

B⁶

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

Vitamin B9 (folate)

B⁹

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

Vitamin B12

B¹²

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

Vitamin C

C

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

Vitamin D

D

■ **Low risk of Vitamin D deficiency.**
Ensure daily recommended intake.

Vitamin E

E

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

2.14. Minerals

CALCIUM

Ca

Calcium malabsorption risk

■ **Low inherited risk of calcium malabsorption.**

Predisposition to dysregulated calcium levels

■ **Increased risk of dysregulated plasma calcium levels.**

IRON

Fe

Risk of iron overload

■ **No additional risk of iron overload.**

Risk of low iron plasma levels

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

MAGNESIUM

Mg

Predisposition to dysregulated magnesium levels

■ **Some risk of dysregulated plasma magnesium levels.**

SELENIUM

Se

Predisposition to dysregulated selenium levels

■ **No additional risk of dysregulated plasma selenium levels.**

SALT

🧂

Sodium sensitivity

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

INDICATIONS

■ Positive effect

■ Medium-positive effect

■ Medium-negative effect

■ Negative effect

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Genetic results overview

2

2.15. Effectiveness of diets

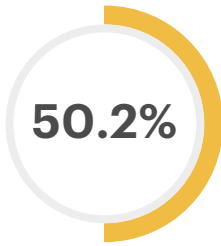


■ 75% - 100%
High efficacy

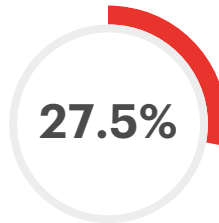
■ 50% - 75%
Medium-high efficacy

■ 25% - 50%
Medium efficacy

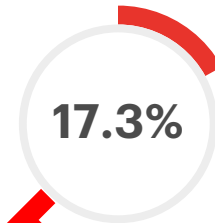
■ 0% - 25%
Low efficacy



Efficacy of low carbohydrate diets



Efficacy of low fat diets



Efficacy of low calorie diets

Recommended nutritional plan

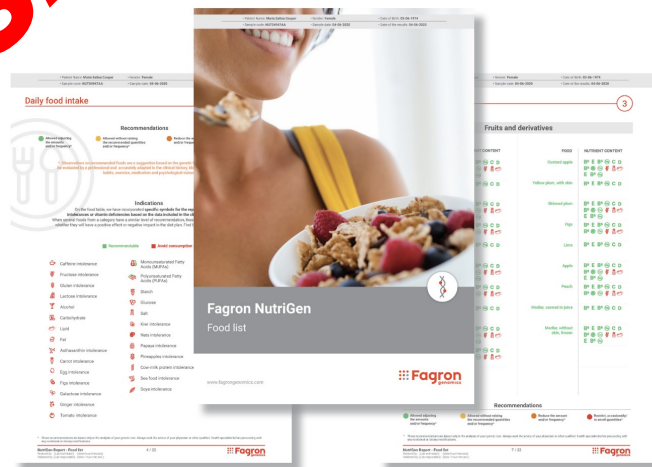
3



The most effective diet for your patient, after the genetic analysis, would be

LOW IN CARBOHYDRATES
INTEGRATED NUTRITIONAL PLAN

Check the **FOOD LIST**
recommended for you



Complete genetic results

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2.1. Morphological genetics for weight control



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Genetic risk of overweight/obesity MEDIUM-LOW RISK OF OVERWEIGHT/OBESITY	MC4R	rs2229616	CC	■
			GG	■
			TT	■
			AA	■
				■
Risk of rebound weight gain HIGH REBOUND EFFECT			GG	■
Risk of increased BMI MEDIUM-LOW RISK OF INCREASED BMI			GG	■
			TT	■
			AA	■
Basal metabolic rate (burn calories at rest) MEDIUM-LOW BURNER AT REST			TT	■
			AA	■
Weight loss capability during diet interventions SLOW WEIGHT LOSS			CC	■

SAMPLE REPORT

INDICATIONS

■ Negative effect

■ Medium-positive effect

■ Positive effect

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Complete genetic results

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2.2. Behavioural genetics in food intake



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Appetite and anxiety risk SLIGHTLY INCREASED APPETITE AND ANXIETY RISK			GG	■
			GG	■
			GG	■
			CC	■
			GG	■
Satiety: Feeling Full NORMAL SATIETY			TT	■

2.3. Flavour sensitivities



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Bitter taste sensitivity NORMAL BITTER TASTE SENSITIVITY			GA	■
			CG	■
Salt sensitivity HIGH SALT SENSITIVITY			GG	■
Sweet flavour preference HIGHLY INCREASED SWEET PREFERENCE			GA	■

SAMPLE REPORT

INDICATIONS





■ **Negative effect** ■ **Medium-positive effect** ■ **Positive effect**

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Complete genetic results

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2.4. Fat metabolism

GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Response to monounsaturated fats (MUFAs) VERY LOW MUFA METABOLISM			GG	
Response to polyunsaturated fats (PUFAs) FAST PUFA METABOLISM			CC TT	 
Response to fat intake to improve the HDL levels MEDIUM-HIGH BENEFITS TO IMPROVE HDL			CT	

SAMPLE REPORT

INDICATIONS

 Negative effect

 Medium-positive effect

 Positive effect

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Nutrigen Report - Patient

Reviewed by: (Lab technician) - (03-01-2024)

Validated by: (Lab responsible) - (10-01-2024)

Complete genetic results

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2.5. Lipid metabolism

GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Predisposition to reduced HDL levels REDUCED HDL LEVELS			AA	■
			CC	■
Predisposition to increased levels of triglycerides HIGHLY INCREASED TRIGLYCERIDES			CC	■
Predisposition to increased oxidation of LDL HIGHLY INCREASED LDL OXIDATION			GG	■
Risk of increased cholesterol LDL levels INCREASED LDL LEVELS			GG	■
			AC	■
			GG	■
			TC	■
Risk of unbalanced Triglycerides/HDL ratio HIGHLY INCREASED TG/HDL RATIO			TT	■

SAMPLE REPORT

INDICATIONS

■ Negative effect ■ Medium-positive effect ■ Positive effect

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Complete genetic results

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2.6. Carbohydrate metabolism



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Capability to digest starchy food			CC	■
REDUCED STARCH DIGESTION			TA	■
Refined carbohydrate sensitivity			TT	■
NORMAL CARBOHYDRATE SENSITIVITY				
Carbohydrates and HDL levels predisposition			CG	■
HIGH RISK OF HDL DYSREGULATION				
Carbohydrates and LDL levels			CG	■
HIGH RISK OF LDL DYSREGULATION				

SAMPLE REPORT

INDICATIONS

■ Negative effect

■ Medium-positive effect

■ Positive effect

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Validated by: (Lab responsible) - (10-01-2024)

Complete genetic results

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2.7. Glucose metabolism



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Risk of increased glucose levels in plasma after fasting			TT	■
	MEDIUM-HIGH RISK OF HIGH GLUCOSE LEVELS		GG	■
Risk of insulin resistance			CC	■
			GG	■
			TT	■
	MEDIUM-HIGH INSULIN RESISTANCE		T	■
			GG	■
Risk of Type-II diabetes			CC	■
			TT	■
			TT	■
			TT	■
	HIGH DIABETES TYPE-II RISK		GG	■
			TT	■
			CC	■
			AA	■
			AG	■
		CC	■	

SAMPLE REPORT

INDICATIONS

- Negative effect
- Medium-positive effect
- Positive effect

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Complete genetic results

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2.8. Efficacy of exercise



Benefits from endurance exercise for improving HDL levels

VERY LOW BENEFITS FROM EXERCISE FOR IMPROVING HDL

TT



Exercise to reduce body fat

MEDIUM-LOW BENEFIT FROM EXERCISE TO REDUCE FAT

TT



GG



TT



GG



2.9. Detoxification imbalances



Antioxidant capability

SLIGHTLY REDUCED ANTIOXIDANT CAPABILITY

GG



GG



GG



GG



CC



TT



GG



SAMPLE REPORT

INDICATIONS

Negative effect

Medium-positive effect






Positive effect

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Complete genetic results

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2.10. Intolerance

	GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
	Lactose intolerance risk			CT	■
	LOWER RISK OF LACTOSE INTOLERANCE			GA	■
	Risk of celiac disease			CC	
				GG	
				GT	
				AA	
				TC	
				TT	
	Fructose intolerance risk			CC	■
	LOWER RISK OF FRUCTOSE INTOLERANCE			GG	■
	Caffeine metabolism			CC	■
	SLOW CAFFEINE METABOLIZER			CA	■
	Alcohol metabolism			GG	■
	NORMAL ALCOHOL METABOLISM				

SAMPLE REPORT

INDICATIONS

■ Negative effect ■ Medium-positive effect ■ Positive effect

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Complete genetic results

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2.11. Hormones

GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
LOW RISK OF DECREASED LEPTIN LEVELS	Leptin		GG	■
HIGH RISK OF INCREASED VISFATIN LEVELS	Visfatin		AA	■
HIGH GHRELIN RECEPTOR (GHSR) EXPRESSION	Ghrelin		GG	■
MEDIUM-HIGH RISK OF DECREASED ADIPONECTIN LEVELS	Adiponectin		GG TG	■ ■

2.12. Inflammation

GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
LOW RISK OF DYSREGULATED TNF- α LEVELS.	TNF- α		GG	■
MEDIUM-LOW RISK OF INCREASED IL-6 LEVELS	IL-6		CG	■
MEDIUM-LOW RISK OF DECREASED ANTIINFLAMMATORY CYTOKINE IL-10 LEVELS	IL-10		TC	■

INDICATIONS

■ Negative effect

■ Medium-positive effect

■ Positive effect

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Complete genetic results

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2.13. Vitamins

	GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
A	Vitamin A			AT	
	LOW RISK OF VITAMIN A DEFICIENCY			CC	
B6	Vitamin B6			CC	
	HIGH RISK OF VITAMIN B6 DEFICIENCY				
B9	Vitamin B9 (folate)			AA	
	HIGH RISK OF VITAMIN B9 (Folate) DEFICIENCY				
B12	Vitamin B12			GG	
	HIGH RISK OF VITAMIN B12 DEFICIENCY				
C	Vitamin C			GG	
	MEDIUM-HIGH RISK OF VITAMIN C DEFICIENCY			CC	
D	Vitamin D			TT	
				GG	
				GT	
				GG	
				GA	
	MEDIUM-LOW RISK OF VITAMIN D DEFICIENCY				
E	Vitamin E			CC	
	HIGH RISK OF VITAMIN E DEFICIENCY			CC	

SAMPLE REPORT

INDICATIONS

 **Negative effect**  **Medium-positive effect**  **Positive effect**

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Complete genetic results

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2.14. Minerals

	GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
Ca	Calcium malabsorption risk			GA	Medium-positive effect
	LOW RISK OF CALCIUM MALABSORPTION			TT	Positive effect
	Predisposition to dysregulated calcium levels			CG	Medium-positive effect
				AA	Negative effect
				AG	Medium-positive effect
				GT	Medium-positive effect
				GA	Medium-positive effect
				CC	Negative effect
Fe	Risk of iron overload			GG	Positive effect
	LOW RISK OF HEMOCHROMATOSIS				
	Risk of low iron plasma levels			AA	Negative effect
				GA	Medium-positive effect
				TT	Negative effect
Mg	Predisposition to dysregulated magnesium levels			AG	Medium-positive effect
				TT	Negative effect
				AA	Positive effect
				CC	Negative effect
				TT	Positive effect
Se	Predisposition to dysregulated selenium levels			CC	Positive effect
				GG	Positive effect
	Sodium sensitivity			GG	Negative effect
	HIGH SODIUM SENSITIVITY				

INDICATIONS

■ Negative effect

■ Medium-positive effect

■ Positive effect

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Complete genetic results

5

2.15. Effectiveness of diets



GENETIC RISK	MARKER	LOCUS	YOUR VARIANT	YOUR RESULT
VERY LOW EXPECTED BENEFIT FROM LOW-CALORIE DIET			CC	■
			GG	■
			TC	■
			CC	■
			CC	■
MEDIUM-HIGH EXPECTED BENEFIT FROM LOW-CARBOHYDRATE DIET			GG	■
			CG	■
MEDIUM-LOW EXPECTED BENEFIT FROM LOW-FAT DIET			CC	■
			GG	■
			AA	■
			GG	■
			TT	■
			TT	■

SAMPLE REPORT

INDICATIONS

- Negative effect
- Medium-positive effect
- Positive effect

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Methodology

6

How were the genetic variants selected and evaluated?

This test was developed by a multidisciplinary team of medical doctors, geneticists, and programmers, following highest quality standards. In particular, an expert team specialized in the curation of genetic variants reviewed each variant to ensure that selection, interpretation and impact of variants in the algorithms are based on the highest scientific evidence.

The following selection criteria were applied for classifying genetic variants:

Level 1A: Annotation for a variant in medical society-endorsed or implemented in a major health system.

Level 1B: Annotation for a variant where the preponderance of evidence shows an association. The association must be replicated in more than one cohort with significant p-values, and preferably will have a strong effect size.

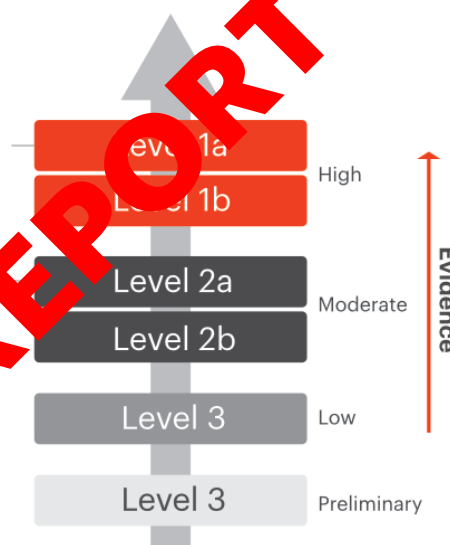
Level 2A: Annotation for a variant that qualifies for level 2B where the variant is within a Very Important known gene, so functional significance is more likely.

Level 2B: Annotation for a variant with moderate evidence of an association. The association must be replicated but there may be some studies that do not show statistical significance, and/or the effect size may be small.

Level 3: Annotation for a variant based on a single significant (not yet replicated) study or annotation for a variant evaluated in multiple studies but lacking clear evidence of an association.

Level 4: Annotation based on a case report, non-significant study or in vitro, molecular or functional assay evidence only.

Only genetic variants from level 1A to 2A were selected.



How was it analyzed?

The DNA was extracted from the buccal swab sample you provided and was analyzed by our clinical analysis laboratory. DNA was extracted using the KingFisher Flex robotic extraction system (Thermo Fisher Scientific). The study of the genetic variants was performed by NGS (Next Generation Sequencing) using the Ion GeneStudio S5 system (Thermo Fisher Scientific).

References

7



References

Scan the QR code to access our NutriGen report reference page.

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SAMPLE REPORT

Together
we create the future
of personalizing medicine.

