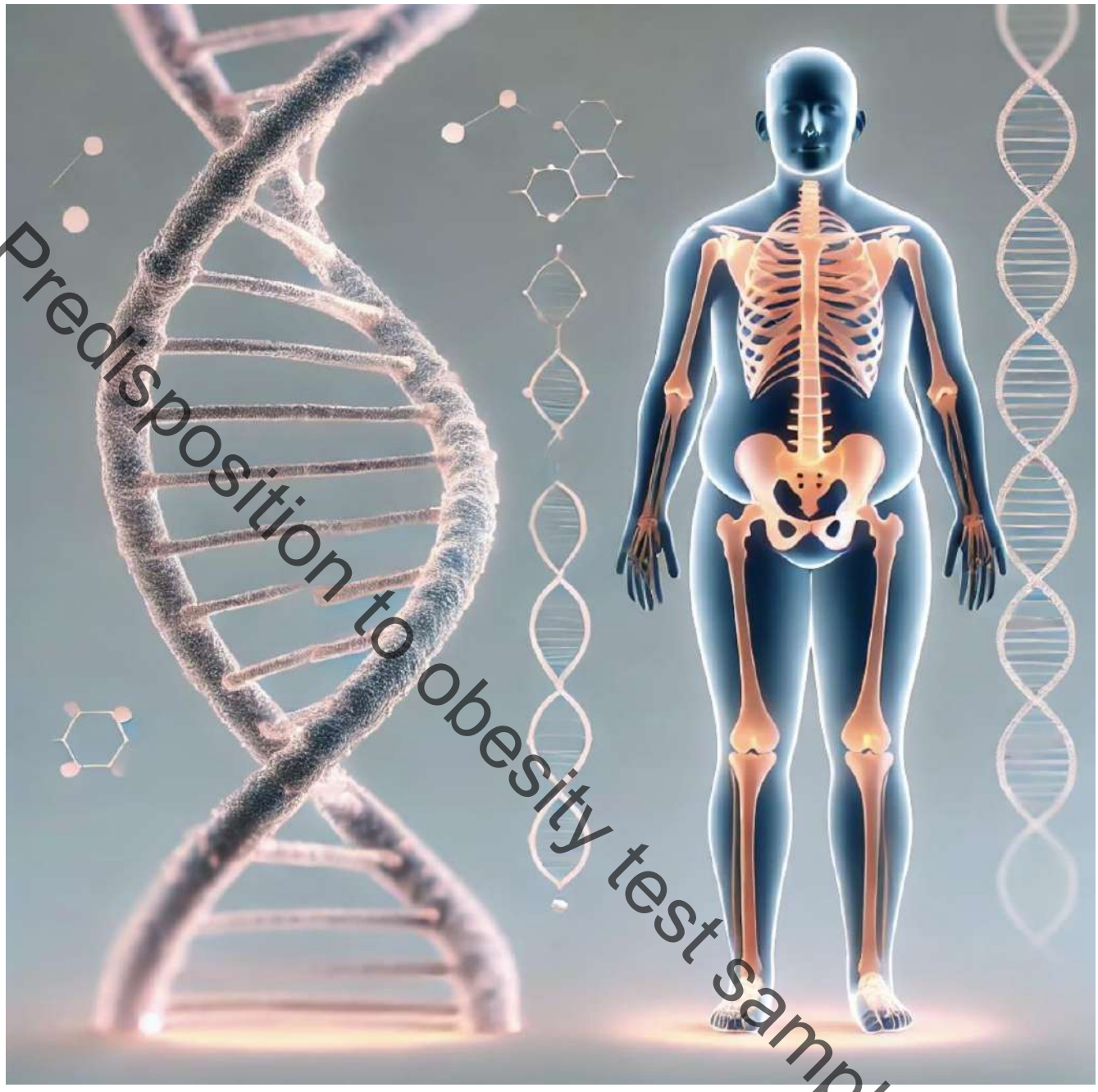

PREDISPOSITION TO OBESITY

XXXXXXXXXXXX

Date of birth: XXXXXXX

Code: XXXXXX

WHAT THE REPORT INCLUDES

- Detailed EXPLANATION of the test performed and recommendations to be followed.
- SUMMARY TABLE presenting the metabolic areas analysed and the results from the DNA analysis, providing a quick overview of an individual's overall health status and highlighting any potential issues.
- BIBLIOGRAPHY providing scientific references for the test.

COLOURS USED

It indicates that the variants identified in the analysis do not unfavourably alter enzymatic activity of the proteins they encode and/or the risk associated with certain diseases.

It indicates that the variants identified in the analysis slightly unfavourably alter enzyme activity and/or the risk associated with certain disorders or diseases.

It indicates that the variants identified in the analysis alter enzyme activity in a particularly unfavourable way, resulting in an increased risk of developing certain disorders or associated diseases.

The results shown, as well as the considerations and explanations contained in the following pages of this booklet, should not be regarded as a medical diagnosis. It is important to bear in mind that genetic information is only a part of the total information needed to gain a complete picture of a person's state of health, and the data reported here is therefore a tool available to the treating physician to formulate a correct assessment of the patient's physiological state and suggest an appropriate personalised treatment.

INTRODUCTION

Obesity is a complex condition influenced by both environmental and genetic factors. Recent research has uncovered several genes that play a role in regulating metabolism and body weight, with the FTO (Fat Mass and Obesity-Associated Gene) being one of the most studied. Variants of the FTO gene significantly impact the risk of developing overweight and obesity.

The FTO gene helps regulate appetite and energy balance, with specific variants influencing:

- Hunger and satiety signals, which can lead to overeating.
- The metabolism of fats and carbohydrates, contributing to fat accumulation.
- Energy expenditure and physical activity levels, potentially decreasing the body's ability to burn excess calories.

Individuals with certain FTO gene variants may be genetically predisposed to larger portion sizes, cravings for high-fat and high-carb foods, and difficulty maintaining a healthy weight. However, genetics is not destiny. Understanding your genetic predisposition can empower you to take proactive steps to manage your weight and improve overall health.

This test analyses specific variants of the FTO gene to assess your genetic predisposition to obesity. The report offers valuable insights into your metabolism, appetite control, and response to different macronutrients, enabling you to personalize your diet and lifestyle.

While the test highlights your genetic risk, it does not guarantee you will develop obesity. A high predisposition suggests an increased risk, but it does not ensure weight gain, just as a low predisposition does not guarantee protection from obesity. By understanding your genetic profile, you can make informed decisions about diet, exercise, and lifestyle choices to manage your weight.

It's important to note that obesity results from a combination of genetic and behavioural factors. This test provides key insights, but maintaining a healthy weight requires a balanced approach, including proper nutrition, regular physical activity, and effective stress management.

We recommend consulting a healthcare professional for a more detailed interpretation of your results and personalized guidance based on your specific needs.

Genetic predisposition to obesity

Genetic analysis of the FTO gene focuses on identifying specific variants (polymorphisms) linked to an increased risk of obesity and weight gain. Specifically, the test examines variants like rs9939609, one of the most extensively studied, to assess whether you have a genetic predisposition to greater fat accumulation, increased appetite, or a reduced ability to regulate caloric intake.

YOUR RESULT:

ID Gentras	Gene	Allelic variants	Genotype		Result
Obesity					
GTS007	FTO	T	A	A	UNFAVOURABLE
		A			

WHAT YOUR GENETICS SAY

In the presence of an unfavourable genetic profile for the gene analysed.

EFFECTS OF THE UNFAVORABLE FTO GENE VARIANT:

The unfavourable variant of the FTO gene, particularly the rs9939609 mutation (A allele), is linked to a higher risk of obesity and weight gain. Individuals with one or two copies of this variant (AA or AT genotype) may experience the following effects:

1. **Increased Appetite and Emotional Hunger**
   - Strong cravings for calorie-dense, fat- and carbohydrate-rich foods.
   - Decreased feeling of fullness, leading to overeating.
2. **Slower Metabolism**
   - Greater tendency to accumulate body fat.
   - Difficulty maintaining a stable weight with the same diet compared to individuals without this variant.
3. **Reduced Energy Expenditure**
   - Lower inclination for spontaneous physical activity.
   - A tendency towards a more sedentary lifestyle.

4. **Altered Macronutrient Utilization**
    - Increased sensitivity to carbohydrates, which may be more easily converted into fat.
    - Reduced ability to burn fat, making it harder to eliminate body fat.

RECOMMENDED SOLUTIONS:

Although genetics may play a role, a healthy lifestyle can mitigate the effects of the FTO gene variant. Here are some targeted strategies:

1. Appetite Control and Satiety Regulation

- **Focus on Protein and Fibre-Rich Foods:**
    - Include lean proteins (chicken, fish, eggs, legumes) to enhance feelings of fullness.
    - Add vegetables, whole grains, and legumes to slow sugar absorption and promote satiety.
- **Avoid Simple Sugars and Ultra-Processed Foods:**
    - Limit sweets, sugary beverages, and refined flours to avoid blood sugar spikes that can trigger hunger.
- **Practice Mindful Eating:**
    - Eat slowly and with awareness to better recognize feelings of fullness, reducing overeating.
- **Incorporate Healthy Fats:**
    - Choose extra virgin olive oil, avocados, nuts, and seeds to help regulate appetite.

2. Accelerate Metabolism and Optimize Energy Expenditure

- **High-Intensity Interval Training (HIIT):**
    - Alternate short bursts of high-intensity exercise with brief rest periods to boost metabolism and burn fat.
- **Increase Daily Activity:**
    - Aim for at least 10,000 steps per day.
    - Take the stairs and incorporate movement during work breaks.
- **Engage in Resistance Training:**
    - Build muscle mass to increase calorie burn even at rest.

3. Improve Carbohydrate Management

- **Opt for Complex Carbs:**
    - Choose quinoa, spelt, oats, legumes, and sweet potatoes to maintain stable blood sugar levels.
- **Follow the Glycaemic Load Strategy:**
    - Combine carbs with protein and healthy fats to moderate their glycaemic impact.
- **Consider Intermittent Fasting (with professional supervision):**
    - This can help improve insulin sensitivity and manage hunger.

4. Behavioral and Psychological Support

- **Manage Stress:**
  - Use relaxation techniques like meditation, yoga, or deep breathing to reduce emotional eating.
- **Prioritize Sleep:**
  - Aim for 7-8 hours of sleep each night, as inadequate rest increases ghrelin (hunger hormone) and decreases leptin (satiety hormone).
- **Seek Support from a Nutritionist or Health Coach:**
  - A personalized diet and fitness plan can guide you in making sustainable changes.

CONCLUSIONS:

Having the unfavourable FTO gene variant doesn't mean you're destined for obesity. By implementing a personalized strategy that combines a balanced diet, regular exercise, and effective stress management, you can overcome genetic tendencies and maintain a healthy weight. Long-term success lies in adopting a sustainable lifestyle tailored to your unique genetic profile.