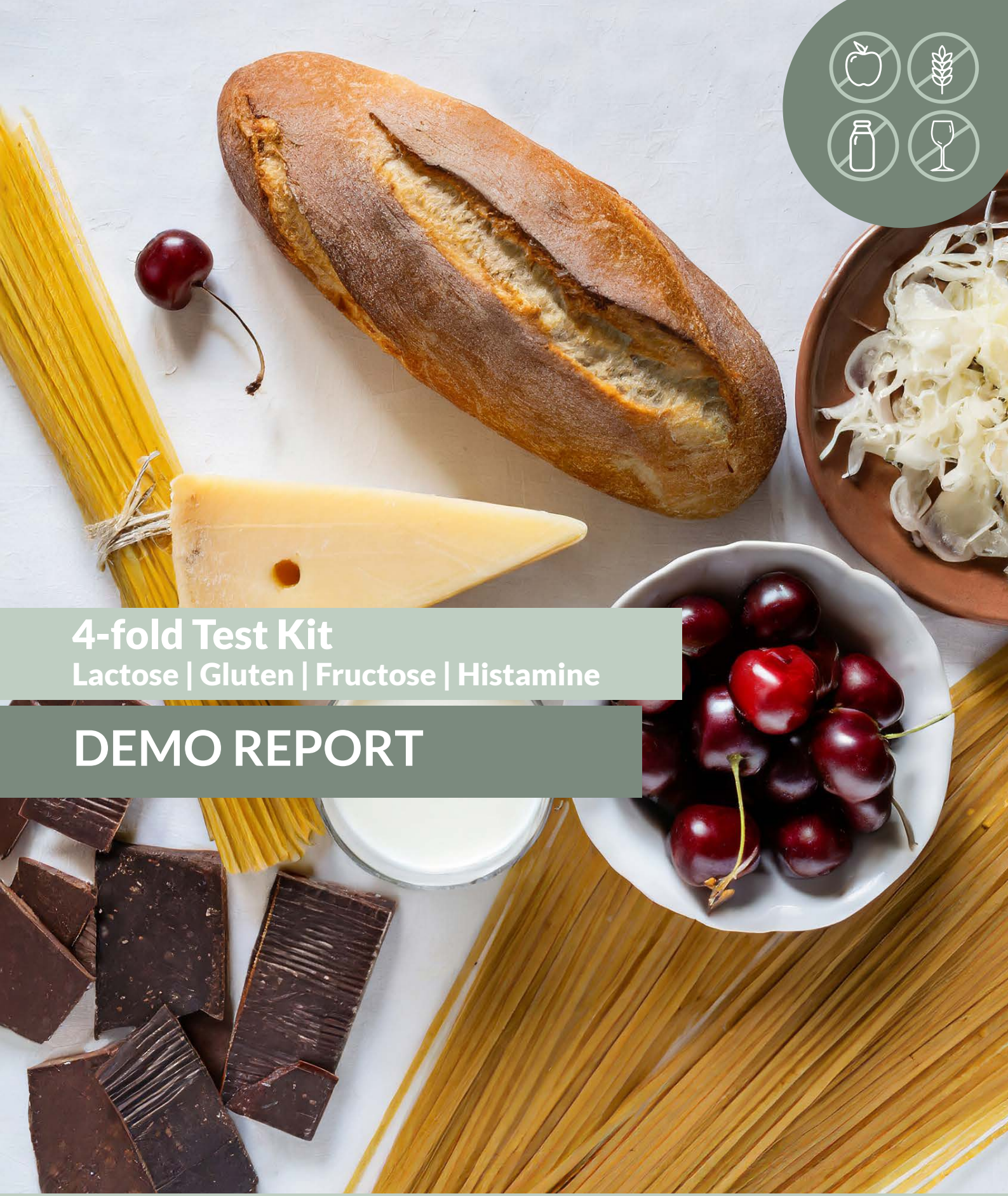

4-fold Test Kit

Lactose | Gluten | Fructose | Histamine

DEMO REPORT

Health begins in gut.

PRO COM CURE DIAGNOSTICS
QUALITY WITHOUT COMPROMISE

LIFE PROCOMCURE

Sample-ID	**04NGSXX**
Sample receipt	**DD.MM.YYYY**

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What are food intolerances?

Intolerances are the body's reactions to certain substances or foods that cannot be properly processed by the body, consequently leading to various health issues after consumption.

The effects of food intolerances range from mild discomfort to severe health issues. Individuals with lactose intolerance may experience gastrointestinal problems after consuming dairy products, while those who cannot tolerate gluten may suffer damage to the intestinal tissue. Inherited fructose intolerance can lead to serious health problems but is relatively rare (approximately 1 in 26,000 individuals). A more common condition than the genetic variant is known as fructose malabsorption, which causes digestive issues due to incomplete absorption of fructose in the small intestine. Histamine intolerance can result in diverse symptoms such as headaches, skin rashes, and digestive problems.

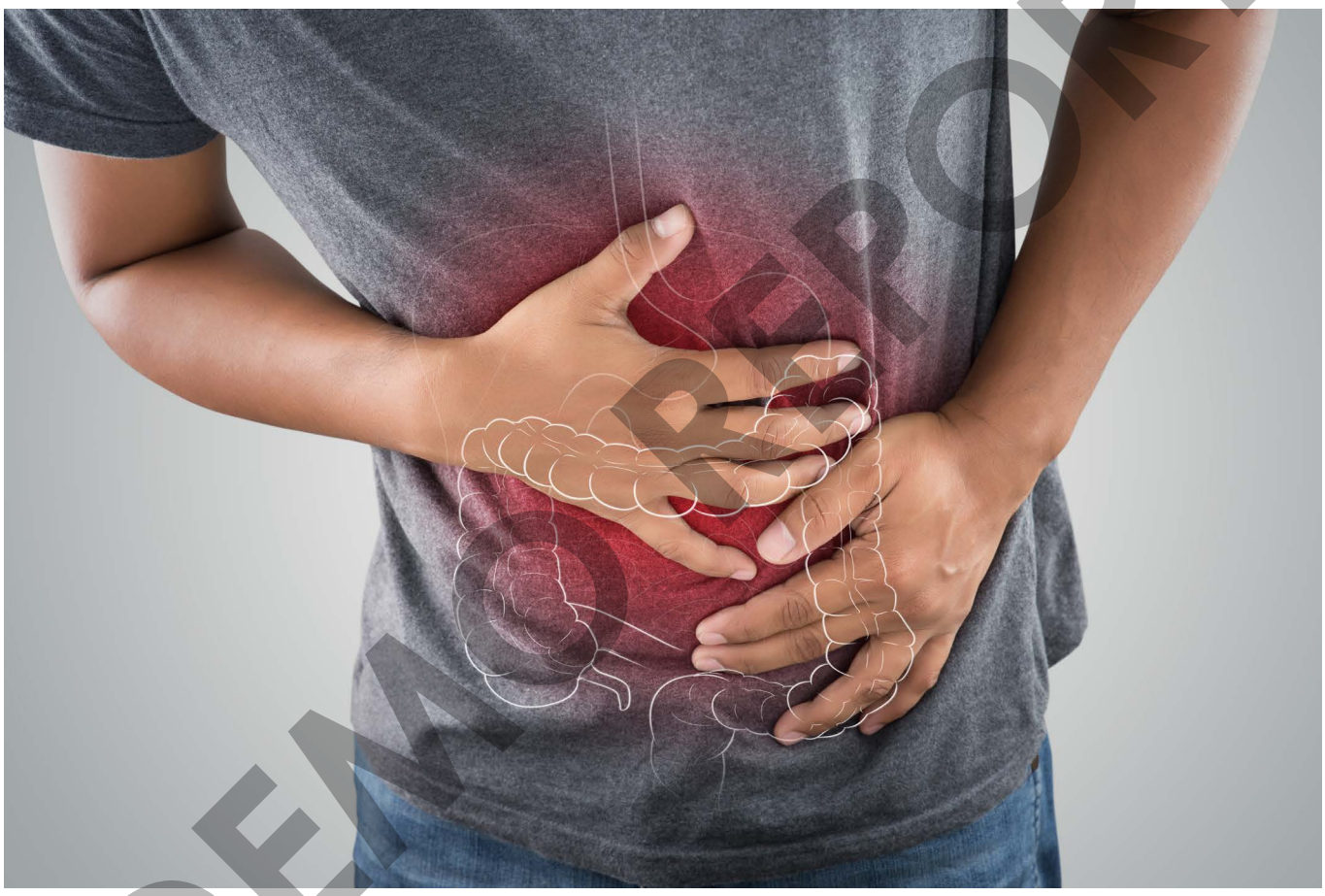
Intolerances to specific foods have increased globally and have become a significant health issue. Genetic predisposition plays a crucial role in the development of food intolerances. Various factors, including changes in dietary habits - especially the use of additives in Western diets - environmental factors, and modern lifestyle, are believed to contribute to the rise in food intolerances.

Long-term consequences may arise from food intolerances if left unrecognized for an extended period or if dietary adjustments are not made to accommodate the body's specific needs and limitations. Unlike food allergies, such as nut allergies, which can trigger allergic reactions with potentially life-threatening complications, food intolerances typically are not life-threatening. However, they significantly impact quality of life and can lead to chronic issues.

In cases of food intolerances like gluten intolerance or lactose intolerance, repeated consumption of poorly tolerated foods can lead to chronic inflammation in the gut. Over time, this can adversely affect gut health if the intolerance is not addressed within the diet.

What are food intolerances?

Avoiding certain foods due to intolerances can lead to a deficiency in specific nutrients if they are not adequately replaced by alternative sources. Therefore, it is crucial to be aware of personal intolerances to minimize the avoidance of certain foods, especially when experiencing typical symptoms after consuming them. Dietary restrictions due to food intolerances can potentially be burdensome, particularly when it is challenging to find suitable alternative foods.



What is the difference between food intolerances and food allergies?

Food intolerance and food allergy are two distinct reactions of the body to specific foods, differing in causes, mechanisms, and symptoms.

When experiencing health issues with certain foods, it is typically either food allergies or food intolerances. In allergies, the immune system is involved, triggering a cascade of immunological reactions because our body mistakenly "believes" it needs to protect us from harmful pathogens. Conversely, intolerances often affect only the digestive system. For severe allergy sufferers, even trace amounts of the offending food can prompt a strong immune system response. Intolerances are usually dependent on the quantity of the problematic food consumed, and small amounts seldom lead to symptoms.

Food intolerances occur when the body struggles to digest certain foods. There are various types of food intolerances such as lactose intolerance, gluten sensitivity/celiac disease, fructose intolerance, fructose malabsorption, or histamine intolerance. These reactions generally do not trigger an immune response but primarily result from a lack of specific proteins or other factors necessary for digesting these foods. Symptoms of food intolerances are mostly confined to the digestive tract and can include abdominal pain, bloating, diarrhea, or other gastrointestinal discomfort. They can also cause other symptoms like headaches or fatigue.

Food allergies are an immunological response of the body to specific proteins in foods. In a food allergy, the immune system erroneously identifies certain proteins as harmful and triggers a defensive reaction that can lead to allergic symptoms. Examples of food allergies include peanut allergy, soy allergy, or wheat allergy. As a distinct case, celiac disease can also be classified within this category. The symptoms of a food allergy can be broader and more severe than the consequences of a food intolerance. They range from abdominal pain, skin rashes, itching, and swelling to breathing difficulties, and in extreme cases, to anaphylactic shock (a life-threatening allergic reaction) or other systemic reactions.

Celiac disease is not a typical food allergy but rather a mixed form between an allergy and an autoimmune disease. It is triggered in genetically predisposed individuals by an immunological reaction to the protein gluten. In celiac disease, the body's immune system erroneously reacts to gluten, producing what are known as antibodies. In this process, the immune system also attacks the body's own structures; the small intestine responds with chronic inflammation, leading to the atrophy of the intestinal villi. As a result, the absorption of nutrients from the intestine becomes severely impaired.

What is the difference between food intolerances and food allergies?

Colloquially, lactose intolerance is often referred to as a milk allergy, which is incorrect. In a milk allergy, the immune system does not react to the milk sugar but to specific proteins in the milk (usually cow's milk). It involves an immunological response that can occur within minutes after consuming milk and dairy products. The symptoms manifest in gastrointestinal discomfort and on the skin. This allergy commonly occurs in infants but typically resolves on its own by school age.

What are mutations?

To provide you with an overview of potential food intolerances, we analyze 12 specific mutations (defined by rs-number) responsible for a significant portion of food intolerances. Within a gene, multiple mutations at different locations can trigger intolerance to a particular food.

Each gene in the human body exists in duplicate, allowing for three possible genetic predispositions (variations) due to mutations. The mutation can occur in only one of the genes, in both genes, or in neither. The effects of mutations are often amplified when both genes are affected.

Graphical representation of the possible genetic variations:

No Variation

One Variation

Two Variations

Short Summary

Lactose

Gene name	rs Number	Variation	Gene name	rs Number	Variation
MCM6	rs4988235		MCM6	rs182549	

Your Result:

You do not have an increased risk of lactose intolerance.

Gluten

Gene name	rs Number	Variation	Gene name	rs Number	Variation
DRB1/HLA-DQ2.5	rs2187668		DR3/4-HLA-DQ8	rs7454108	

Your Result:

You have a high risk of gluten intolerance/celiac disease.

Fructose

Gene name	rs Number	Variation	Gene name	rs Number	Variation
ALDOB	rs76917243		ALDOB	rs1800546	
ALDOB	rs78340951				

Your Result:

You have a high risk of fructose intolerance.

Histamine (AOC1 Gene)

Gene name	rs Number	Variation	Gene name	rs Number	Variation
AOC1	rs2052129		AOC1	rs2268999	
AOC1	rs10156191		AOC1	rs1049742	

Your Result:

You may have an increased risk of histamine intolerance.

Histamine (HNMT Gene)

Gene name	rs Number	Variation
HNMT	rs11558538	

Your Result:

You have a tendency for an increased risk of histamine intolerance.

NOTES

MISCELLANEOUS

Report created by:

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Austria

Measurement Method:

NGS
PCR Test & DNA Sequencing

Primary sample or submitted material:

Saliva sample

Disclaimer:

This genetic risk analysis is based on the polymerase chain reaction (PCR) of selected genes. Changes (mutations) in these genes can be detected using the PCR method and sequencing. The number of detected mutations is not exhaustive, and there may be other mutated genes that were not covered by the PCR. The current interpretation of the selected genes may change in the future due to the publication of new scientific studies. The test carried out serves to determine the variants of various genes associated with food intolerances. Certain variants of these genes are associated with an increased risk of the intolerances mentioned. However, this test cannot determine whether an acute intolerance is present, nor can it be used as a basis for diagnosis or treatment. This report is provided to you solely for informational and educational purposes and does not replace a visit to a doctor or the advice or services of a physician. This report does not constitute a medical diagnosis and therefore should not be used as a basis for medical treatment or medication.

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