

**Test report**  
Real Time PCR Genotyping

<b>TEST REPORT No</b>	
Applicant	
Name and Surname	
Patient Date of birth	
Sample collection date	
Sample receipt date	
Analysis date	
Analysis code	CODE#5

**LACTOSE INTOLERANCE**

A gene variant, GTS011, is evaluated, indicating the body's ability to digest lactose present in milk and its derivatives. The unfavorable variant is C and implies a low activity of the Beta-D-Galactosidase (or lactase) enzyme, which can determine a more or less severe genetic intolerance to lactose.

Gentras ID	Gene	Allelic variants	Genotype		Variant	Susceptibility
GTS011	Beta-D-Galattos.	T C	T	T	FAVORABLE	NOT INTOLLERANT

**LACTOSE INTOLERANCE**

If the unfavorable allelic variant is present in the final result, the subject has a genetic intolerance to lactose which can have different manifestations in different individuals.

The indication of intolerance is based on scientific evidence that associates the unfavorable allelic variant detected by the analysis with the primary genetic cause of lactose intolerance. This indication is a deterministic measure, but since it does not take into account the subject's lifestyle but only their genetic assessment, it can manifest itself differently in different individuals.

**Scientific Director**

### DESCRIPTION OF LACTOSE INTOLERANCE

Lactose intolerance is a widespread metabolic disorder caused by the inability to digest lactose due to a shortage of lactase enzymes. Lactase activity is high during infancy, when milk is the main source of nutrition, and declines after the weaning phase in most mammals. Approximately 75% of the world’s population loses the ability to digest lactose. The prevalence of adult type lactose intolerance varies depending on ethnicity, from less than 5% in north-western Europe to almost 100% in some Asian populations. Clinical symptoms of lactose intolerance usually begin 30 minutes to 2 hours after eating or drinking foods that contain lactose, such as dairy products. The onset of symptoms is directly related to the quantity of ingested lactose. The severity of symptoms varies, depending on the amount of lactose each individual can tolerate. It is important to distinguish lactose intolerance from other conditions, such as irritable bowel syndrome, which have very similar symptoms.

#### Common symptoms of lactose intolerance and conditions with similar symptoms

Typical symptoms after consuming food or drink containing lactose	Conditions with similar symptoms
Abdominal bloating	Celiac disease
Abdominal pain	Cows’ milk protein allergy
Diarrhea	Crohn’s disease
Flatulence	Irritable bowel syndrome
Growth block	Ulcerative colitis
Nausea	
Steatorrhea (excess fat in stool)	
Stomach cramps	

### RECOMMENDATIONS

Lactose-intolerant individuals should:

- introduces dietary changes to minimize clinical symptoms. Depending on the severity of lactose intolerance, the diet may vary to the extent in which dairy products are eliminated from the diet.
- consider seeing a health-care practitioner or a nutritionist in order to receive consultation on dietary recommendations and education on the lactose-restricted diet.
- have periodic medical check-ups performed by a health-care practitioner. Consultation with a dietician is recommended as the dietary restrictions may cause vitamin and mineral deficiency (vitamins A, B12 and D, calcium, magnesium, and zinc), which may increase risk in developing conditions like osteopenia, osteoporosis, malnutrition and weight loss.

### TREATMENT

Treatment for lactose intolerance includes a lactose-restricted diet. The extent of dietary changes depends on how much lactose a person can consume without exhibiting symptoms. Additionally, a lactose-intolerant individual may use commercially available lactase (LactAid, Lactase, DairyEase etc.), which reduces the lactose to glucose and galactose.