LONGEVITY



Elisabeth® Pharmacon

EliGene® Real-Time PCR Kits

DNA detection of **lactose intolerance**

EliGene®
DNA DIAGNOSTICS

Lactose Intolerance - Help Identify the Cause

Lactose intolerance results from reduced activity of lactase, the enzyme responsible for lactose digestion. When lactose is not sufficiently digested, it remains in the intestinal lumen, where it increases osmotic load and is fermented by the intestinal microbiota. This may lead to bloating, abdominal pain, diarrhoea, and other gastrointestinal symptoms after lactose consumption.
However, these symptoms are non-specific and do not reveal the underlying cause.
Primary lactase non-persistence (genetically predisposed primary lactose intolerance) is associated with genetic polymorphisms in the regulatory region of the LCT gene, which lead to reduced lactase expression after childhood. In contrast, secondary lactase non-persistence may result from intestinal diseases or damage to enterocytes, causing a temporary or persistent reduction in lactase production.

Genetic testing identifies a predisposition to primary lactase non-persistence. It can therefore help distinguish a genetic cause of lactase deficiency from secondary causes and support appropriate further clinical evaluation and dietary management.

DETECTION OF -13910 C>T AND -22018 G>A POLYMORPHISMS ASSOCIATED WITH ADULT-TYPE LACTASE NON-PERSISTENCE

REAL-TIME PCR GENOTYPING

Visit the webpage:

ELIGENE® LACTOSE INTOLERANCE RT

Detection of the -13910 C>T and -22018 G>A single nucleotide polymorphisms in the MCM6 regulatory region associated with LCT gene expression.



VALIDATED DEVICES:
QuantStudio 5 (Thermo Fisher Scientific)
CFX96 Touch Real-Time PCR Detection System (Bio-Rad)
Compatible with a wide range of PCR cyclers

WHAT THE TEST REVEALS

- **The EliGene® Lactose Intolerance RT kit detects two genetic polymorphisms associated with primary adult-type lactase non-persistence: -13910 C>T and -22018 G>A.** In individuals of European ancestry, the -13910 C/C genotype is strongly associated with adult-type lactase non-persistence. The -22018 G/G genotype is a supplementary marker and should not be interpreted independently as evidence of primary lactase non-persistence.

- The -13910 C/C genotype may occur with different -22018 G>A genotypes. Approximately half of individuals with the -13910 C/C genotype also carry the -22018 G/G genotype. In contrast, the -22018 G/G genotype is typically observed together with the -13910 C/C genotype in European populations. Rare discordant genotype combinations may occur, particularly in individuals with non-European ancestry, and should be interpreted with caution.



DATA INTERPRETATION

POLYMORPHISM	LACTASE NON-PERSISTENCE	LACTASE PERSISTENCE
-13910 C>T	CC	TT, CT
-22018 G>A	GG*	AA, GA

* The -22018 G/G genotype should be interpreted as associated with lactase non-persistence only when the -13910 C/C genotype is also present in the same individual.

- **The EliGene® Lactose Intolerance RT test identifies common genetic variants associated with lactase persistence or non-persistence and is intended as an aid in the diagnostic process.** Results should be interpreted in conjunction with the patient's clinical presentation and other relevant laboratory or clinical assessments; they must not be used as the sole basis for therapeutic decisions.

WHY GENETIC TESTING MATTERS

- **Genetic insight:** Identifies variants associated with lactase persistence or non-persistence and assesses predisposition to primary adult-type hypolactasia.
- **One-time genetic testing:** The genotype remains stable throughout life, so testing generally needs to be performed only once.
- **Flexible sample types:** Suitable for DNA isolated from blood or buccal swab samples.
- **Clinical support:** Complements the assessment of symptoms, dietary history and functional testing, supporting informed diagnostic and dietary decisions.

KEY FEATURES OF ELIGENE® LACTOSE INTOLERANCE RT

- Two **clinically relevant variants**: Detects -13910 C>T and -22018 G>A polymorphisms in the regulatory region of the MCM6 gene.
- **High analytical performance:** 100% analytical specificity and a detection sensitivity of at least 10 ng of DNA per reaction.
- **Streamlined workflow:** Four-channel Real-Time PCR allelic discrimination enables both variants to be analysed in a single reaction.
- **Validated instruments:** Compatible with the QuantStudio™ 5 and CFX96 Touch™ Real-Time PCR systems.
- **Built-in quality control:** Includes positive controls for reliable genotype identification.
- **Ready for routine diagnostics:** CE-IVD kit, available in a 50-reaction format.
- **Expert technical support:** export@elisabeth.cz

Regulatory status:
CE-marked under IVD Directive 98/79/EC,
IVDR (EU 2017/746) certification process ongoing



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