



Eurospita

Real Time PCR kit for the determination of the main HLA genotypes predisposing to the development of Celiac Disease

Indications

During the last years, research activities in genetics of coeliac disease have made many progresses. The introduction of **XeliGen RT**, by identifying major HLA genotypes, allows you to define the "HLA-related risk" of developing celiac disease. This aspect represents a real progress as previous systems, able to identify alleles encoding DQ2 and DQ8 heterodimers, but not their quantity, allowed only to exclude the risk of developing Coeliac Disease.

Application field

Celiac Disease is an multifactorial autoimmune disease which involves many genetic and environmental factors.

The involved genetic factors are linked to the HLA system (about 40%) and to various genes distributed in different chromosomes. The presence of specific "HLA genotypes" in the short arm of chromosome 6 determines the encoding of heterodimers responsible for the irregular activation of the immune system. The presence of these heterodimers is not a sign of the development of the disease, but indicates the presence of a risk factor. On the other hand, their absence excludes, almost certainly, the development of the disease.

Recent studies have shown that the genetic risk associated with genotypes encoding DQ2/DQ8 heterodimers is not the same for all patients. The studies have shown that the genetic risk of developing celiac disease may be stratified into 5 Classes, from G1 to G5, according to the specific genotype.

XeliGen RT is the unique RealTime PCR based system which can identify all genotypes associated to the 5 Class risk groups (G1 to G5) predisposing to Coeliac Disease.

Advanced technology

The introduction of **XeliGen RT** complete the existing Eurospita products for the identification of the genetic predisposition to Coeliac Disease (Eu-Gen and Eu-Gen Risk). While previous products were based on standard PCR technique, **XeliGen RT** is based on RealTime technology which ensures a better quality of results.

Configuration

XeliGen RT

code 9136

12 test



Technical features

- Ready-to-use reagents
- Test configuration can be adapted to any possible need.
- Definition of risk class according to the most recent literature.
- Validated system on the most common thermocyclers AB7300; 7500; 7900; StepOne; Rotorgene 3000-6000; BioRad MiniOpticon; CFX Connect/Touch; Eppendorf RealPlex).

Expected results

The interpretation of results obtained by using **XeliGen RT** allows identifying whether a given subject belongs to a specific risk class for coeliac disease.

The result obtained by **XeliGen RT** is expressed in terms of DR and DQ genotype, complete haplotypes and status of the DQB1*02 allele. The table below shows the associations which can be obtained with **XeliGen RT**.

XeliGen RT • Combination analysis						
Comb.	DR Genotype	DQ Genotype	Haplotypes		DQB1*02 Status	Comb.
A	DR3 / DR3	DQ2 / DQ2	DR3 - DQA1*05 - DQB1*02	DR3 - DQA1*05 - DQB1*02	Homozygosis	A
B	DR3 / DR7	DQ2 / DQ2	DR3 - DQA1*05 - DQB1*02	DR7 - DQA1*02:01 - DQB1*02	Homozygosis	B
C	DR5 / DR7	DQ7 / DQ2	DR11 - DQA1*05 - DQB1*03:01	DR7 - DQA1*02:01 - DQB1*02	Heterozygosis	C
D	DR3 / DR5	DQ2 / DQ7	DR3 - DQA1*05 - DQB1*02	DR11 - DQA1*05 - DQB1*03:01	Heterozygosis	D
E	DR3 / DR4	DQ2 / DQ8	DR3 - DQA1*05 - DQB1*02	DR4 - DQA1*03 - DQB1*03:02	Heterozygosis	E
F	DR7 / DR7	DQ2 / DQ2	DR7 - DQA1*02:01 - DQB1*02	DR7 - DQA1*02:01 - DQB1*02	Homozygosis	F
G	DR7 / DR4	DQ2 / DQ8	DR7 - DQA1*02:01 - DQB1*02	DR4 - DQA1*03 - DQB1*03:02	Heterozygosis	G
H	DR4 / DR4	DQ8 / DQ8	DR4 - DQA1*03 - DQB1*03:02	DR4 - DQA1*03 - DQB1*03:02	Not present	H
I	DR3 / --	DQ2 / --	DR3 - DQA1*05 - DQB1*02			I
L	DR7 / --	DQ2 / --	DR7 - DQA1*02:01 - DQB1*02			L
M	DR4 / --	DQ8 / --	DR4 - DQA1*03 - DQB1*03:02			M
N	Report presence of at-risk-alleles only: DQA1*05 , DQB1*02 and DQB1*03:02					N

The Eurospital range of products for genetics of Coeliac Disease

XeliGen RT in RT PCR	code 9136	12 test	CE
Eu-Gen Traditional PCR	code 9133	24 test	CE
Eu-Gen Risk Traditional PCR	code 9135	24 test	CE
Eu-Gen Estrazione	code 9132	24 test	CE

Literature

1. Petronzelli F.: Genetic contribution of the HLA region to the familial clustering of coeliac disease. *Ann Hum Genet* 1997;61:307-17
2. Jeannin M. et al.: HLA DQ relative risks for coeliac disease in European populations: a study of the European Genetics Cluster on Coeliac Disease. *Tissue Antigens* 2004; 63: 562-567
3. Bourgey M. et al.: HLA-related genetic risk for coeliac disease. *Gut* 2007 Mar 23