

### MOLECULAR DIAGNOSTICS AGILITY IS OUR DNA





Founded in 1987, Clonit srl was one of the first Italian companies operating in the field of biotechnology. Since the beginning the company has worked to develop innovative and reliable analytical methods in the field of In Vitro Diagnostics using molecular biology techniques.

The systems are useful for human diagnostics with particular attention to the detection of viral, bacteria and protozoa infections, genetic mutations and oncological diseases. In February 2020, Clonit acquired Euroclone Diagnostica, another player in the human diagnostic market segment, both at local and international level. The complementarity between the two companies makes the acquisition a starting point for a new CLONIT with stronger knowhow and more business relationship.

The new products portfolio will be a merging of the excellences and will allow to propose increasingly competitive solutions to respond to the new challenges of the market. The standardization of internal quality control system and cross-checks in outer reference labs have made Clonit able to assure the highest standards of care and quality (ISO 9001 and ISO13485 Certified).

The company is registered and authorized by the Italian Ministry of the Health for the production of Medical Diagnostic devices. Clonit offers to its customers an unrivalled experience in molecular biology.

## Realtime PCR Emerging & Tropical Infections

#### West Nile Virus + Usutu

West Nile virus (WNV), belonging to the antigenic complex of Japanese encephalitis is a pathogen of re-emergence of the genus Flavivirus.

The phylogenetic analysis identified several genetic lines (lineage from 1 to 8). Of these, only lineage 1 and more recently lineage 2 have been associated with significant outbreaks in humans. The quanty WNV allows that allows the detection and quantification of the 3'UTR region of West Nile Virus (WNV), discriminating it from Usutu Virus, also belonging to the Flavivirus family and closely related to WNV.

Given the close phylogenetic correlation between Usutu Virus and WNV, strongly positive Usutu viruses patients could show cross reactivity with West Nile Virus. For this reason, a probe was inserted in the reaction to allow the correct identification of both viral targets.

Most people infected with WNV do not develop clinical signs. In endemic areas the symptomatology is evident in about 20% of the affected subjects, with an influenza-like syndrome characterized by an incubation period of about 2-14 days. Less than 1% has severe neurologic symptomatology classifiable in three main syndromes: meningitis, encephalitis and acute flaccid paralysis.

| Product Description | Code  | CE Mark | Description |
|---------------------|-------|---------|-------------|
| quanty WNV          | RT-04 | CEIVD   | 48 Tests    |

\* with Usutu virus differentiation.

#### USUTU

Among emerging viruses, Usutu virus (USUV) has recently attracted the attention of the scientific community due to its extensive spread in Europe. USUV is a Flavivirus that was first isolated in South Africa in 1959 and maintained in the environment through a typical enzootic cycle involving mosquitoes and birds.

This infection in humans is considered to be most often asymptomatic or to cause mild clinical signs. Nonetheless, a few cases of neurological complications such as encephalitis or meningoencephalitis have been reported. USUV share many features with West Nile virus (WNV). These two viruses co-circulates in numerous European countries: WNV reemerged in 2015 concomitantly with USUV, and enhanced dual reporting of WNV and USUV outbreaks in 2018 was observed in several European countries. Given that USUV and WNV are genetically, antigenically and epidemiologically closely related, one question is whether such overlaps can influence the associated risks for humans. Co-infections in humans could complicate diagnosis and symptomatology.

Clearly, there is a need to organize standard surveillance measures and early warning systems to detect also USUV activity, and to assess the risk for public health, both at the national and European level.

| Product Description | Code  | <b>CE Mark</b> | Description |
|---------------------|-------|----------------|-------------|
| Quanty Usutu        | RT-20 | CEIVD          | 48 Tests    |

### Realtime PCR Emerging & Tropical Infections



#### **CHIKUNGUNYA E ZIKA**

Chikungunya fever is a mosquito-borne viral disease transmitted by Aedes sp., particularly A. aegypti and A. albopictus. It is caused by infection with Chikungunya virus, an alphavirus from the Togaviridae family. There are three distinct genotypes of CHIKV: genotype-1 Asian, genotype-2 Eastern/Central/Southern African (ECSA), and genotype-2 Western African. The ECSA genotype has been the dominant strain throughout Asia and the islands and countries in the Indian Ocean over the last decade.

The clinical characteristics of Chikungunya include acute onset of fever which may last up to two weeks and painful, potentially debilitating, polyarthritis in adults which may last for up to a year following infection. Most CHIKV diagnostics are performed based on clinical outcomes; however, it can be difficult to differentiate CHIKV infection from other arboviruses, since the symptoms are very similar. Laboratory tests are critical for distinguishing this infection from other acute febrile illnesses, and viral isolation can be performed for detection of CHIKV. The ZikaVirus (ZIKV) it's a RNA virus of the Flaviviridae family, with single positive filament. In humans this virus causes the Zika Fever which is transmitted mainly by bites from mosquitos (Ae. aegypti e Ae. Albopictus), through infection from biological fluids or sexual intercourse and from mother to fetus. In this last event an increased incidence of teratogens effects (microcephalia and cerebral defects) may happens, specially if the infection occurs in the first quarter of the pregnancy.

| Product Description | Code  | <b>CE Mark</b> | Description |
|---------------------|-------|----------------|-------------|
| quanty Chikungunya  | RT-05 | CEIVD          | 48 Tests    |
| quanty Zika         | RT-40 | CEIVD          | 48 Tests    |

### Realtime PCR Emerging & Tropical Infections

### DENGUE

Dengue is a mosquito-borne viral infection causing flu-like illness, and occasionally develops into a potentially lethal complication called Severe Dengue, a leading cause of serious illness and death among children in some Asian and Latin American countries.

The global incidence of Dengue has grown dramatically in recent decades: about half of the world's population is now at risk. It is found in tropical and sub-tropical climates worldwide, mostly in urban and semi-urban areas. There is no specific treatment for Dengue/Severe Dengue, but early detection and access to proper medical care lowers fatality rates below 1%. Dengue virus belongs to the Flaviviridae family and there are 4 distinct, but closely related, serotypes of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).

The Clonit Dengue Serotyping system is a qualitative test that allows identification of Dengue Virus focusing on the identification of the 4 serotypes, because recovery from infection by one provides lifelong immunity against that particular serotype. However, cross-immunity to the other serotypes after recovery is only partial and temporary.

Subsequent infections (secondary infection) by other serotypes increase the risk of developing severe dengue.

| Product Description | Code    | <b>CE Mark</b> | Description  |
|---------------------|---------|----------------|--|
| Dengue Serotyping   | RT-03   | CEIVD          | 48 Tests   |
|                     |         |                |  |
| Product Description | Code    | CE Mark        | Description  |
| Malaria Panel       | RT-61   | CEIVD          | 24 Tests<br>Multiplex Detection and<br>Identification of P. falciparum,<br>P. malariae, P. vivax and P.<br>ovale |
| Malaria Screening   | RT-66   | CEIVD          | 48 Tests   |
| Malaria panel 2.0   | RT-61v2 | CEIVD          | with P.Knowlesi<br>coming soon   |
| Leishmania spp      | RT-63   | CEIVD          | 48 Tests   |
| quanty Leishmania   | RT-63q  | CEIVD          | 48 Tests   |

# Transplantation Panel Manual solutions

| Product Description    | Code    | CE Mark  | Description         |
|------------------------|---------|----------|---------------------|
| quanty Adenovirus      | RT-34   | CEIVD    | 48 Tests            |
| quanty BK              | RT-32   | CEIVD    | 48 Tests            |
| quanty CMV             | RT-12   | CE IVD * | 48 Tests            |
| quanty EBV             | RT-13   | CEIVD    | 48 Tests            |
| quanty Enterovirus     | RT-33   | CEIVD    | 48 tests            |
| quanty HHV-6           | RT-30   | CEIVD    | 48 Tests            |
| quanty HHV-7           | RT-29   | CEIVD    | 48 Tests            |
| quanty HHV-8           | RT-31   | CEIVD    | 48 Tests            |
| quanty HSV-1           | RT-18/1 | CEIVD    | 48 Tests            |
| quanty HSV-2           | RT-18/2 | CEIVD    | 48 Tests            |
| quanty HSV 1-2         | RT-18S  | CEIVD    | 48 test multiplex   |
| quanty Parvo B19       | RT-17   | CEIVD    | 48 Test             |
| quanty JCV             | RT-24   | CEIVD    | 48 Tests            |
| quanty VZV             | RT-23Q  | CEIVD    | 48 Tests            |
| Varicella Zoster Virus | RT-23   | CEIVD    | 48 test qualitative |

\*NB.0318

## Transplantation panel WalkAway Automation

| Product Description   | Code    | CE Mark | Description                                 |
|-----------------------|---------|---------|---|
| quanty Adenovirus_qs  | QS-34   | CEIVD   | 96 Tests - QIASymphony SP/AS<br>Application |
| quanty BK_qs          | QS-32   | CEIVD   | 96 tests - QIASymphony SP/AS<br>application |
| quanty CMVqs          | QS-12   | CEIVD   | 96 Tests - QIASymphony SP/AS<br>Application |
| quanty EBVqs          | QS-13   | CEIVD   | 96 Tests - QIASymphony SP/AS<br>Application |
| quanty Enterovirus_qs | QS-33   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HSV-1qs        | QS-18/1 | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HSV 1-2qs      | QS-18s  | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HSV-2qs        | QS-18/2 | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HHV-6qs        | QS-30   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HHV-7qs        | QS-29   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty HHV-8qs        | QS-31   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty JCVqs          | QS-24   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty Parvo B19qs    | QS-17   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |
| quanty VZVqs          | QS-23   | CEIVD   | 96 Tests - QIASymphony SP/AS application    |







Hepatitis is an inflammation of the liver. It can be developed as a result of alcoholism or medications but is most commonly caused by viral infection. Five distinct hepatitis viruses have been identified: A, B, C, D and E. Together they affect about 400 million people worldwide. Viral hepatitis A and E are food- and water-borne infections that can result in acute outbreaks in communities with unsafe water and poor sanitation. HDV infection is linked to HBV infection.

Hepatitis E is a liver disease caused by the Hepatitis E virus (HEV). HEV infection usually results in a self-limited, acute illness. Although rare in developed countries, locally acquired HEV infection can result in acute hepatitis with tendency to progress to chronic hepatitis mainly among solid organ transplant recipients. The unique characteristics of HEV is that it displays different clinical and epidemiologic profile depending on where the infection is acquired which is mainly due to the viral genotype. There are four genotypes of HEV, each displaying different epidemiological and clinical characteristics between developing and developed countries. Hepatitis E virus is usually spread by the fecal-oral route. The most common source of HEV infection is fecally contaminated drinking water. In developed countries sporadic cases of HEV genotype 3 have occurred following consumption of uncooked/undercooked pork or deer meat.

Consumption of shellfish was a risk factor in a recently described outbreak in a cruise ship. HEV genotype 4, detected in China, Taiwan, and Japan, has also been associated with foodborne transmission.

| Product Description | Code  | CE Mark | Description |
|---------------------|-------|---------|-------------|
| quanty HDV          | RT-49 | RUO     | 48 Tests    |
| quanty HAV          | RT-02 | CEIVD   | 48 Tests    |
| quanty HEV          | RT-41 | CEIVD   | 48 Tests    |

## Realtime PCR Respiratory Infections

Respiratory infections are among the top ten causes of death worldwide and represent a main cause of pediatric outpatient consultations in the industrialized world. A quick and sensitive diagnostic test is critical for immediate diagnosis and treatment of the patient and for preventing further spreading of the infections.

| Product Description            | Code      | CE Mark | Description          |
|--------------------------------|-----------|---------|----------------------|
| M. tuberculosis Complex        | EBR019032 | CEIVD   | 32 Tests             |
| Mycoplasma pneumoniae          | EBR012032 | CEIVD   | 32 Tests             |
| Adenovirus                     | EBR008032 | CEIVD   | 32 Tests             |
| Legionella spp.                | EBR011032 | CEIVD   | 32 Tests             |
| Legionella pneumophila         | EBR007032 | CEIVD   | 32 Tests             |
| Mycobacterium avium<br>Complex | EBR010032 | CEIVD   | 32 Tests             |
| quanty RSV A/B                 | RT-47     | CEIVD   | 48 Tests             |
|                                | RT-25     | CEIVD   | 48 Tests<br>(quanty) |
| Sars Covid-19                  | RT-25v2   | CEIVD   | 96 Tests<br>(quanty) |
|                                | RT-25HT   | CEIVD   | 96 Tests<br>(quali)  |

### Realtime PCR Respiratory Infections



#### SARS-COV-2

Coronavirus disease 2019 (COVID-2019) is caused by a novel coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and was identified as a pandemic by the World Health Organization (WHO) on March 11, 2020. SAR-CoV2 is an enveloped, non-segmented, positive sense RNA virus that is included in the sarbecovirus, ortho corona virinae subfamily which is broadly distributed in humans. Patients infected with the virus usually shows flu-like symptoms, such as fever (in over 90% of cases), dry cough (over 80% of cases), fatigue, shortness of breath (about 20% of cases ) and difficulty of breathing (about 15% of cases).

All the Clonit COVID-19 kits are qualitative or quantitative tests that allow the identification, by means of Real Time PCR, of different regions of N gene (nucleocapsid phosphoprotein) of SARS-CoV-2 in subjects with suspected COVID-19 infection. Furthermore, Clonit COVID-19 Kits allow a simultaneous evaluation swabs suitability using endogenous internal control amplification.

| Product Description     | Code    | CE Mark | Description                     |
|-------------------------|---------|---------|---------------------------------|
| quanty Covid-19         | RT-25   | CEIVD   | 48 Tests<br>(N1,N2,N3)          |
| quanty Covid-19 v2      | RT-25v2 | CEIVD   | 96 Tests<br>(N1,N2) one<br>tube |
| Covid 19 HT Screen      | RT-25HT | CEIVD   | 96 Tests<br>(N1,N2) one<br>tube |
| Flu A/Flu B/ SARS-CoV-2 | RT-26   | CEIVD   | 96 Tests                        |

## Realtime PCR Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) are the most widespread diseases in the world. The most frequently reported STDs are caused by Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis and Mycoplasmas. Diagnosis of STDs is problematic as they often cause no specific symptoms. Due to its rapidity and sensitivity, molecular diagnostics is becoming a worldwide standard in this field.

| Product Description    | Code      | CE Mark  | Description |
|------------------------|-----------|----------|-------------|
| Trichomonas vaginalis  | EBR038032 | CEIVD    | 32 Tests    |
| Mycoplasma hominis     | EBR015032 | CEIVD    | 32 Tests    |
| Ureaplasma urealyticum | EBR016032 | CEIVD    | 32 Tests    |
| Neisseria gonorrheae   | EBR018032 | CEIVD    | 32 Tests    |
| Mycoplasma genitalium  | EBR027032 | CEIVD    | 32 Tests    |
| Multiplex CT/ NG       | RT-44     | CE IVD * | 48 Tests    |
| Chlamydia trachomatis  | RT-22     | CE IVD * | 48 Tests    |

\*NB.0318

## Realtime PCR Pregnancy Management



Toxoplasmosis is a parasitic disease caused by the parasite Toxoplasma gondii. Toxoplasmosis infections usually cause no symptoms in adult humans. Sometimes infected people may encounter a few weeks or months of mild influenza-like illness such as muscle pain, lymphadenopathy, and in a few cases they develop eye problems. Only to those who have a weak immune system, may experience severe symptoms such as convulsions and a lack of coordination capacity.

If a woman is infected during pregnancy, a condition known as "congenital toxoplasmosis" can affect the unborn child. Toxoplasmosis is usually contracted after eating poorly cooked food containing cysts, with the contact with the feces of an infected cat and transmission from mother to child during pregnancy. Rarely the disease is transmitted as a result of a blood transfusion, or spreads between people. The parasite is known to reproduce sexually in felines. However, it is able to infect the majority of warm-blooded animals, including humans. Diagnosis is typically made by testing the blood for the presence of antibodies or by testing the amniotic fluid in the presence of parasite DNA.

| Product Description | Code  | <b>CE</b> Mark | Description |
|---------------------|-------|----------------|-------------|
| quanty TOXO         | RT-94 | CE IVD *       | 48 Tests    |

### \*NB.0318

Measles is a highly contagious respiratory disease caused by a virus. It can result in serious health complications, such as pneumonia and encephalitis (swelling of the brain), and even cause death.

Rubella is a viral infection that affects unvaccinated children and young adults. If an unvaccinated woman gets rubella while pregnant – especially in her first three months – serious consequences can result, including miscarriages, fetal deaths, still births, and having infants born with congenital rubella syndrome (CRS).

| Product Description | Code  | <b>CE Mark</b> | Description |
|---------------------|-------|----------------|-------------|
| quanty Measles      | RT-06 | CEIVD          | 48 Tests    |
| quanty Rubella      | RT-39 | RUO            | 48 Tests    |
| Measles/Rubella     | RT-21 | RUO            | 48 Tests    |

## Realtime PCR Nosocomial Infections

Clostridium difficile has been recognized as an increasingly important cause of nosocomial diseases. The C. difficile infections or CDI are the leading cause of infectious diarrhea in hospitals worldwide. The major virulence factors of C. difficile are thought to be toxin A and toxin B produced by the pathogen.

| Product Description                       | Code      | <b>CE</b> Mark | Description |
|---|-----------|----------------|-------------|
| Clostridium difficile<br>Toxin A- Toxin B | EBR026032 | CEIVD          | 32 Tests    |

Acinetobacter baumannii, once considered an opportunistic and low-category pathogen, is today one of the most challenging nosocomial pathogens due to the emergence and widespread of antibiotic resistance. Detection of OXA-type carbapenamases-mediated acquired resistance by testing the blaOXA-51, blaOXA-58, blaOXA-23, blaOXA-24, blaOXA-143-genes and IsAba1-blaOxa51-junction is therefore becoming a very important tool for monitoring resistance spreading.

| Product Description                | Code      | <b>CE</b> Mark | Description |
|------------------------------------|-----------|----------------|-------------|
| A. baumannii MDR<br>OXA Genotyping | EBR040032 | CEIVD          | 32 Tests    |

## Realtime PCR Cardiovascular Diseases



Thrombophilia represents a predisposition to form clots inappropriately. It is caused by abnormalities in blood consistency, determined by modified levels and activity of coagulation factors that participate in the "coagulation cascade". Thrombotic events are increasingly recognized as a significant source of mortality and morbidity. Predisposition to form clots is a multifactorial disease: it derives from genetic factors, acquired changes in the clotting mechanism, or, more commonly, an interaction between genetic and acquired factors. A significant proportion of the population has a detectable abnormality, but most of these only develop thrombosis in the presence of additional environmental risk factors. Clonit's assays provide a complete coverage of frequent as well as rare mutations in genes related to the coagulation pathway reported to constitute risk factors for thrombophilia.

|             | Target             | Code         | CE Mark | Description  |
|-------------|--------------------|--------------|---------|--|
| Factor II   | G20210A            | EER028032QS* | CEIVD   | 32 Tests   |
|             | G20210A            | EER037032    | CEIVD   | 32 Tests   |
|             | R306T Cambridge    | EER024032    | CEIVD   | 32 Tests   |
|             | C1/01A             | EER027032QS* | CEIVD   | 32 Tests   |
| Faster)/    | G1691A             | EER038032    | CEIVD   | IVD32 TestsIVD32 Tests |
| Factor V    | 1142000            | EER031032QS* | CEIVD   | 32 Tests   |
|             | H1299R             | EER041032    | CEIVD   | 32 Tests   |
|             | Y1702C             | EER047032    | CEIVD   | 32 Tests   |
| Factor XIII | V34L               | EER022032    | CEIVD   | 32 Tests   |
|             | С677Т              | EER029032QS* | CEIVD   | 32 Tests   |
| MTHFR       | C6771              | EER039032    | CEIVD   | 32 Tests   |
| MINER       | A1298C             | EER030032QS* | CEIVD   | 32 Tests   |
|             | AIZ98C             | EER040032    | CEIVD   | 32 Tests32 Tests   |
| MTRR        | A66G               | EER042032    | CEIVD   | 32 Tests   |
| MTR         | A2756G             | EER043032    | CEIVD   | 32 Tests   |
| PAI-1       | 675 promoter 4G/5G | EER053032    | CEIVD   | 32 Tests   |
| HPA-1 a/b   | HPA-1 a/b          | EER048050 C  | CEIVD   | 50 Tests   |
| HPA-1 a/D   | HPA-1 a/b          | EER048032QS* | CEIVD   | 32 Tests   |
| Beta-Fibri- | Doto Fibringson    | EER049050    | CEIVD   | 50 Tests   |
| nogen       | Beta-Fibrinogen    | EER049032QS* | CEIVD   | 32 Tests   |

\* WalkAway automation on QiaSymphony



### WARFARINE METABOLISM

Warfarin is the treatment of choice in the management of venous thromboembolic disease. The wide interindividual variability in warfarin response is influenced by some genetic variants: in particular, a single nucleotide polymorphism (SNP) in the Vitamin K Epoxide Reductase Complex Subunit 1 (VKORC1) known as VKORC1 (1639G>A) that is an important determinant of the initial Warfarin dosage, and two SNPs found in the cytochrome P450 enzyme gene CYP2C9 known as CYP2C9\*2 (C430T) and CYP2C9\*3 (A1075C).

|                       | Product Description | Code         | CE Mark  | Description |
|-----------------------|---------------------|--------------|----------|-------------|
|                       | VKORC1 1639G>A      | EER054050    | CEIVD    | 50 Tests    |
| VKUKUI                |                     | EER054032QS* | CEIVD    | 32 Tests    |
|                       | CYP2C9*2 430C>T     | EER055050    | CEIVD    | 50 Tests    |
| CYP2C9 <sup>°</sup> 2 |                     | EER055032QS* | CEIVD    | 32 Tests    |
|                       |                     | EER056050    | CEIVD    | 50 Tests    |
| CYP2C9*3 1075A>C      | EER056032QS*        | CEIVD        | 32 Tests |             |

\* WalkAway automation on QiaSymphony

### ABACAVIR HYPERSENSITIVITY - HLA-B\*5701 ALLELE

Abacavir is an antiviral drug belonging to the class of Nucleoside Reverse Transcriptase Inhibitors (NRTI). It is used in combination with other antiretroviral agents in the treatment of patients infected by human immunodeficiency virus (HIV), the cause of Acquired Immunodeficiency Syndrome (AIDS). Most importantly, HIV-positive patients must be monitored for the presence of

HLA-B\*5701 allele before treating them with Abacavir. Indeed, Abacavir must not be given to patients bearing HLA-B\*5701 allele, unless any other therapeutic option is not available.

| Product Description | Code      | <b>CE Mark</b> | Description |
|---------------------|-----------|----------------|-------------|
| HLA-B*5701 Allele   | EER052032 | CE IVD *       | 32 Tests    |

\* NB.0318





### **CELIAC DISEASE**

Celiac disease is a serious autoimmune disease that occurs in genetically predisposed people where the ingestion of gluten leads to damage in the small intestine. It is estimated to affect 1 in 100 people worldwide. The presence of certain HLA alleles explains at least 40% of the disease heritability. Performing an accurate HLA typing allows to evaluate the greater or lesser predisposition of an individual to develop intolerance. The main genetic risk factor is localized in the HLA-DQ region and is represented by DQ2 heterodimer coded by HLA-DQA1\*05 and DQB1\*02 genes. The presence of DQB1 \* 02 and DQA1 \* 05 determines the DQ2.5 haplotype, at greater risk. The presence of DQB1 \* 02 and DQA1 \* 02 determines the DQ2.2 haplotype, at lower risk. Subjects affected by celiac disease, negative for HLA-DQ2, mostly show the DQ8 heterodimer encoded by the genes HLA-DQA1 \* 03 and DQB1 \* 0302. The presence of one of the predisposing HLA combination determines an increased risk of Celiac Disease, while the absence of the same makes the development of the disease quite unlikely. The Clonit Celiac Disease kit is a test that allows the identification of HLA DQ2 (DQ2.2 and DQ2.5), DQ8, and also HLA DR3, DR4, DR7, DR11 and DR12 haplotypes. Identification of DR haplotypes does not modify the disease risk that depends exclusively on the DQA1 and DQB1 loci, but their determination can help as a validation of the results, due to the close linkage disequilibrium between DR and DQ The test is integrated with a dedicated software that allows a fast and accurate identification of the haplotypes in the analyzed patients.

| Product Description       | Code     | CE Mark  | Description |
|---------------------------|----------|----------|-------------|
| Gluten DQuick DResolution | RT- 59v3 | CE IVD * | 48 Tests    |
| Plug-in Analyze Software  | PL-01    | CEIVD    |             |

\* NB.0318

#### LACTOSE INTOLERANCE

Many adults have a genetically caused deficiency of the enzyme lactase (LCT gene) which results in intestinal disorders on consumption of milk or milk products. The two main polymorphisms associated with lactose intolerance are LCT -13910C/T and LCT -22018G/A, located in the regulatory region of the lactase gene. According to current knowledge, homozygous carriers of the wild type variants -13910C/C and -22018G/G develop lactose intolerance, while heterozygous carriers of the polymorphisms -13910C/T and -22018G/A only show corresponding symptoms in stress situations or with intestinal infections.

| Product Description | Code  | CE Mark | Description                                       |
|---------------------|-------|---------|---|
| Lactose Intolerance | RT-11 | CEIVD   | 48 Tests<br>(C13910T<br>Mutation)                 |
| Lactose Intolerance | RT-37 | CEIVD   | 48 Tests<br>(C13910T<br>and G22018A<br>Mutations) |

### Realtime PCR Genetic Diseases

#### **HEREDITARY HAEMOCHROMATOSIS**

Hereditary haemochromatosis is an inherited disorder of iron metabolism potentially resulting in injury and organ failure. The disease is a consequence of different mutations in the HFE gene, which is involved in intracellular iron transport, that in turn causes disorders such as: cirrhosis, hepatoma, heart failure, arhythmia, infectious diseases and diabetes.

|     | Product Description | Code         | CE Mark | Description |
|-----|---------------------|--------------|---------|-------------|
|     | C282Y               | EER032032QS* | CEIVD   | 32 Tests    |
|     |                     | EER044032    | CEIVD   | 32 Tests    |
|     |                     | EER033032QS* | CEIVD   | 32 Tests    |
| HFE | H63D                | EER045032    | CEIVD   | 32 Tests    |
|     | 5/50                | EER034032QS* | CEIVD   | 32 Tests    |
|     | S65C                | EER046032    | CEIVD   | 32 Tests    |

\* WalkAway automation on QiaSymphony

### APOE

The apolipoprotein E (ApoE) is a 299 aminoacid glycoprotein synthesized in the liver and nervous system, in surrenal gland, gonads, kidney, musculus striatum and spleen. The three possible alleles of ApoE (E2,E3, E4) encode for the E2, E3 ed E4 isoforms respectively. In the brain Apo E plays a crucial role in the development and repairment of neuronal structures. Moreover, Apo E is involved in the pathogenesis of the either late onset, familiar or sporadic Alzheimer's Disease.

|      | Product Description  | Code      | CE Mark | Description |
|------|--|-----------|---------|-------------|
| АроЕ | ApoE*E2<br>(Cys112-Cys158)<br>ApoE*E3<br>(Cys112-Arg158)<br>ApoE*E4<br>(Arg112-Arg158) | EER018032 | CEIVD   | 32 Tests    |

### **GILBERT'S SYNDROME**

Gilbert's syndrome is caused by decreased hepatic levels of the enzyme glucuronosyltransferase. As this enzyme is responsible for the glucuronidation (conjugation) of bilirubine in the liver, reduced activity of the glucuronosyltransferase leads to the accumulation of unconjugated bilirubin in the circulation. It is not a rare disease: 3-10% of the population presents this condition.

|        | Product Description | Code      | CE Mark | Description |
|--------|---------------------|-----------|---------|-------------|
| UGT1A1 | 6TA/7TA             | EER025032 | CEIVD   | 32 Tests    |



### **ANKYLOSING SPONDYLITIS**

| Product Description | Code  | CE Mark  | Description |
|---------------------|-------|----------|-------------|
| HLA-B*27            | RT-53 | CE IVD * | 48 Tests    |

\* NB.0318

### CARDIOVASCULAR DISEASES

RHYMA TEST CVD STRIP TEST is based on Reverse Hybridization Technology. It is a multiplex assay for the detection of the following 5 different thrombophilia-related mutations in blood samples: **R506Q (Factor V Leiden), H1299R (HR2 haplotype), G20210A (Factor II- Prothrombin), C677T (MTHFR), A1298C (MTHFR)** 

| Product Description                        | Code       | <b>CE Mark</b> | Description |
|--|------------|----------------|-------------|
| Rhyma Test CVD                             | EES001020  | CEIVD          | 20 Strips   |
| Rhyma Test CVD<br>for automatic instrument | EES001020D | CEIVD          | 20 Strips   |
| Rhyma Test HFE                             | EES006020  | CEIVD          | 20 Strips   |

### Y CHROMOSOME MICRODELETIONS

Infertility is a major health problem affecting 10-15% of couples seeking to have children and a male factor can be identified in about half of these cases. A significant proportion of infertile males are affected either by oligozoospermia or azoospermia. The recent growth of assisted reproduction techniques has led to the identification of Y chromosome microdeletions into AZF regions correlated to non-obstructive azoospermia, Men with deletions in AZFa and AZFb regions show severe defects in spermatogenesis, whereas deletions of AZFc region can be compatible with residual spermatogenesis. These Clonit tests are based on Gel Electrophoresis and Reverse Hybridization techniques.

| Product Description                            | Code       | CE Mark | Description |
|--|------------|---------|-------------|
| Rhyma Test IVF AZF                             | EES003020  | CEIVD   | 20 Strips   |
| Rhyma Test IVF AZF<br>for automatic instrument | EES003020D | CEIVD   | 20 Strips   |
| Chromosome Y Microdeletion                     | EDP003024  | CEIVD   | 40 Strips   |

## official distributor



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