IONTEK

Bringing Color to Molecular Diagnostics

2024

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Diagnostics

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“At IONTEK, we believe that relentless efforts aligned with innovative biotechnology are key to changing people’s lives.”

IONTEK has been one of Turkey’s **pioneering Molecular Diagnostic companies starting over 28 years ago.** IONTEK operates under **ISO 9001: 2015 and ISO 13485: 2016** and produces high quality molecular diagnostic tests and services, making use of most advanced techniques and information systems.

The tests design and production facilities are certified under Full Quality Assurance route of the In Vitro Diagnostic Devices Directive 98/79/EC and IVDR transitions are fully incorporated into the quality system. IONTEK uses its own R&D to produce a wide range of Real-Time PCR tests in the field of molecular microbiology and molecular genetics.

Using Real-Time PCR technology, IONTEK is capable to diagnose and follow the progress of viral agents such as **Hepatitis B, C, Delta** and the **HIV**, among many others. With certified test kits, the progression and follow-up of the viral diseases are carried out quantitatively through nucleic acid contents.

IONTEK is the first biotechnology company to carry on **DNA production and DNA sequencing services** in Turkey and continues to invest in the training and development of our highly qualified staff in R&D activities. With its state-of-the-art tools, **developing new products for new platforms** and improving the welfare of lives have been IONTEK’s main priority.

Thanks to its highly qualified team, IONTEK also collaborates with education initiatives and research centers as well as private hospitals. We offer our business partners a 28-year experience with competent customer support and a never-ending excitement to create real impact in healthcare.

MOLECULAR DIAGNOSTICS PRODUCTS

FLUORION REAL-TIME PCR KITS

LABORATORY EQUIPMENTS

PRODUCTS LIST

FLUORION

REAL-TIME PCR KITS

HBV

Hepatitis B Virus, a member of the Hepadnaviridae, is an enveloped virus with a partially double-stranded DNA genome. The infection can be asymptomatic or symptomatic, which starts with anorexia, vague abdominal discomfort, nausea and vomiting, sometimes arthralgias and rash, often progressing to jaundice. Fever may be absent or mild; severity ranges from inapparent cases to fatal acute hepatic necrosis, or chronic infection. Long term fatality rate is 2-3% due to cancer or cirrhosis of the liver; 95% of adult infections are self limited. The mode of transmission is through percutaneous or permucosal exposure to infectious body fluids sexual contact, household contact, perinatal transmission from mother to infant, nosocomial exposure and so on.

Fluorion HBV QNP 2.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

REAL-TIME PCR KITS
MICROBIOLOGY

Principle of the Test	Quantification of HBV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	HBV DNA polymerase gene
Detected Genotypes	Genotypes A-F
Specimen Type	Serum
Limit of Detection	10 IU/ml
Dynamic Range of Quantification	$2x10^1$-$2x10^9$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
HBV QNP 2.0 Real-Time PCR Kit CE-IVD	M0010202-2	50 tests
HBV QNP 2.0 Real-Time PCR Kit CE-IVD	M0010202-3	100 tests

VIRAL DETECTION

HCV

Hepatitis C Virus, a member of the Flaviviridae, is an enveloped virus with a singlestranded positive sense RNA genome. The infection onset is insidious, with anorexia, vague abdominal discomfort, nausea and vomiting, progressing to jaundice (less frequently than hepatitis B). Chronic infection is often not symptomatic; there appears to be an association between HCV infection and hepatocellular carcinoma, of these chronically infected persons, approximately 50% will develop cirrhosis or cancer of the liver. The virus is parenterally transmitted.

Fluorion HCV QNP 2.1 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

REAL-TIME PCR KITS
MICROBIOLOGY

Principle of the Test	Quantification of HCV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	5' UTR
Detected Genotypes	Genotypes 1-6
Specimen Type	Serum
Limit of Detection	26 IU/ml
Dynamic Range of Quantification	$2x10^2$-$2x10^{10}$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
HCV QNP 2.1 Real-Time PCR Kit CE-IVD	M0020202-2	50 tests
HCV QNP 2.1 Real-Time PCR Kit CE-IVD	M0020202-3	100 tests

HIV

AIDS, or acquired immune deficiency syndrome, is caused by the Human Immunodeficiency Virus (HIV). Individuals diagnosed with AIDS are susceptible to life-threatening diseases called opportunistic infections, which are caused by microbes that usually do not cause illness in healthy people. HIV-1 is classified as a lentivirus in a subgroup of retroviruses. The genetic material is single-stranded RNA. Two closely related retroviruses, HIV-1 and HIV-2, have been identified as causing AIDS in different geographic regions. At the end of 2016, there were approximately 36.7 million people living with HIV according to WHO. CDC has estimated that approximately 40,000 persons become infected with HIV each year. The HIV-1 RNA level is the most valuable marker for predicting disease progression in nontreated patients and is highly useful for evaluating the effectiveness of antiretroviral drug therapy.

Fluorion HIV QNP 1.1 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

REAL-TIME PCR KITS
MICROBIOLOGY

Principle of the Test	Quantification of HIV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	LTR
Detected Genotypes	HIV-1 group M genotypes (A-H)
Specimen Type	Serum
Limit of Detection	60 IU/ml
Dynamic Range of Quantification	$2x10^{10}$-$2x10^{2}$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
HIV-1 QNP 1.1 Real-Time PCR Kit CE-IVD	M0290202-2	50 tests
HIV-1 QNP 1.1 Real-Time PCR Kit CE-IVD	M0290202-3	100 tests

CMV

Cytomegalo Virus, a member of the Herpesviridae, is an enveloped virus with a double-stranded linear DNA genome. Infection is common and usually asymptomatic. The most severe form is congenital with severe generalized infection involving central nervous system and liver accompanied by lethargy, convulsions, jaundice, pneumonitis and encephalitis. Reactivation, infection, or reinfection may occur in immunocompromised patients (bone marrow and other transplants). Immunodeficient patients (fetus, newborn, immunocompromised) are at higher risk. The mode of transmission is through intimate exposure by cutaneous or mucosal contact with infectious tissues, secretions or excretions (urine, saliva, breast milk, cervical secretions, semen). Infection of the fetus in the uterus and postnatal infection at delivery is possible. Blood transfusion is a common cause of post-transfusion mononucleosis (about 3% risk). The virus can also be transmitted through organ transplantation.

Fluorion CMV QNP 3.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Quantification of CMV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	DNA polymerase
Detected Genotypes	All major genotypes
Specimen Type	Serum
Limit of Detection	48 copies/ml
Dynamic Range of Quantification	$2x10^{10}$-$2x10^{2}$ Copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
CMV QNP 3.0 Real-Time PCR Kit CE-IVD	M0380202-2	50 tests
CMV QNP 3.0 Real-Time PCR Kit CE-IVD	M0380202-3	100 tests

HDV

Hepatitis D is an infective disease caused by Hepatitis Delta Virus (HDV). The symptoms may include fever, jaundice, fatigue, appetite loss, abdominal pain, nausea, joint pain, tea colored urine. HDV infection may either be acquired as a coinfection with Hepatitis B Virus (HBV), or as a super infection in individuals with existing HBV infection. In both coinfection and superinfection, HDV infection results in more severe complications, such as a higher risk of liver failure (in acute infections) and a higher risk of liver cancer (in chronic infections) compared to infection with HBV alone. Having a genetic material composed of only 1.7 kb circular RNA, HDV is the smallest virus known to infect humans.

Fluorion HDV QNP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5'exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Quantification of HDV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Structural antigen gene
Detected Genotypes	HDV genotypes 1-7
Specimen Type	Serum
Limit of Detection	400 IU/ml
Dynamic Range of Quantification	$1x10^{10}$-$1x10^{3}$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
HDV QNP 1.0 Real-Time PCR Kit CE-IVD	M0060202-2	50 tests
HDV QNP 1.0 Real-Time PCR Kit CE-IVD	M0060202-3	100 tests

EBV

Epstein-Barr Virus (EBV) is a member of the herpesvirus family. Infants become susceptible to EBV as soon as maternal antibody protection (present at birth) disappears. Many children become infected with EBV, and these infections usually cause no symptoms or are indistinguishable from the other mild, brief illnesses of childhood. Although the symptoms of infectious mononucleosis usually resolve in 1 or 2 months, EBV remains dormant or latent in a few cells in the throat and blood for the rest of the person's life. Periodically, the virus can reactivate. This reactivation usually occurs without symptoms of illness. EBV also establishes a lifelong dormant infection in some cells of the body's immune system. A late event in a very few carriers of this virus is the emergence of Burkitt's lymphoma and nasopharyngeal carcinoma. EBV appears to play an important role in these malignancies, but is probably not the sole cause of disease.

Fluorion EBV QNP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection and quantification of EBV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Long internal repeat region 1
Detected Genotypes	All major genotypes
Specimen Type	Serum
Limit of Detection	50 IU/ml
Dynamic Range of Quantification	$5x10^2$-$5x10^9$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp MinElute Virus Spin Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
EBV QNP 1.0 Real-Time PCR Kit CE-IVD	M0360202-2	50 tests
EBV QNP 1.0 Real-Time PCR Kit CE-IVD	M0360202-3	100 tests

PARVOVIRUS B19

Parvovirus B19 is the only member of the Parvoviridae family which has been identified as a human pathogen. This DNA virus, preferentially infects and destroys precursor erythroid cells in the bone marrow. Infection is transmitted through contact with infected respiratory secretions (saliva, sputum or nasal mucus); mother to fetus; parenterally by transfusion of blood and blood products.Parvovirus B19 infection in healthy hosts is either asymptomatic or results in the common viral exanthem, erythema infectiosum which is also known as "Fifth Disease" that affects children, or in acute arthropathy. Recovery is usually spontaneous and it rarely leads to complications such as anemia, ancephalopathy, arthritis or pneumoniae. Individuals with impaired bone marrow or immune function are uniquely susceptible to B19 infections. Infection in patients with chronic haemolytic diseases (such as sickle cell anemia) may lead to transient aplastic crisis or persistent viraemia with chronic anaemia.

Fluorion PARVOVIRUS QNP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection and quantification of Parvovirus
Technology	Real-Time PCR with hydrolysis probes
Gene Target	NS-1 gene
Detected Genotypes	All major genotypes
Specimen Type	Serum
Limit of Detection	90 IU/ml
Dynamic Range of Quantification	$1.5x10^2$-$1.5x10^8$ IU/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp MinElute Virus Spin Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
Parvovirus B19 QNP 1.0 Real-Time PCR Kit CE-IVD	M0410202-2	50 tests
Parvovirus B19 QNP 1.0 Real-Time PCR Kit CE-IVD	M0410202-3	100 tests

BKV

BK Virus (BKV) is a nonenveloped, double-stranded DNA virus of the polyomavirus family that primarily affects immunocompromised people. BKV becomes latent in the urinary tract after primary infection. In the context of immunosuppressive therapy, BKV can cause nephropathy in renal transplant recipients, resulting in tubulointerstitial lesions known as polyomavirus-associated nephropathy (PVAN) or, more specifically, BKV nephropathy (BKVN). Measurement of BKV loads in the urine and plasma is a powerful clinical tool for identifying patients at risk for developing BKVN and for monitoring response to therapy. Quantitative Real Time PCR is ubiquitous and reliable method for early diagnosis of BKVN.

Fluorion BKV QNP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection and quantification of BK Virus
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Small T-Antigen gene
Detected Genotypes	All major genotypes
Specimen Type	Serum, plasma, urine
Limit of Detection	32 copies/ml
Dynamic Range of Quantification	$1x10^1$-$1x10^8$ copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp MinElute Virus Spin Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
BKV QNP 1.0 Real-Time PCR Kit CE-IVD	M0610202-2	50 tests
BKV QNP 1.0 Real-Time PCR Kit CE-IVD	M0610202-3	100 tests

JCV

Human JC Virus (JCV) is a non-enveloped virus with a circular double-stranded-DNA genome of the polyomavirus family. JCV infection is widespread in the human population and primary infection usually occurs during childhood. After primary infection, the virus undergoes lifelong latency in the kidneys and replicates the progeny being excreted into the urine via an unknown reactivated mechanism. JCV is the causative agent of the neurological disease progressive multifocal leukoencephalopathy, which occurs in immunocompromised patients.

Fluorion JCV QNP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection and quantification of JC virus
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Small T-Antigen gene
Detected Genotypes	All major genotypes
Specimen Type	Serum, plasma, urine
Limit of Detection	45 copies/ml
Dynamic Range of Quantification	$4x10^1$-$4x10^9$ copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp MinElute Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
JCV QNP 1.0 Real-Time PCR Kit CE-IVD	M0620202-2	50 tests
JCV QNP 1.0 Real-Time PCR Kit CE-IVD	M0620202-3	100 tests

HSV

Human Herpesviruses are a family of eight DNA viruses which naturally occur in humans. HSV-1 and HSV-2 belong to this family. HSV infections are transmitted by the transfer of infected secretions through direct contact. Gingivostomatitis, symptomatic primary infection of the oral cavity usually caused by HSV-1, occurs most frequently in small children. Recurrent HSV-1 infections are most frequently manifested as cold sores that usually appear near the lip. HSV-1 is also the main cause of Herpes simplex keratitis, which is frequently accompanied by conjunctivitis and may lead to visual impairment. Genital herpes is most frequently caused by HSV-2. While some of the infections are completely cured, others are recurrent. Neonatal HSV infections are mostly caused by HSV-2 and usually result from contact of the fetus with infected maternal secretions during delivery. Neonatal HSV infection may result in; a) Skin, Eye and Mouth Disease, b) Encephalitis, and c) Disseminated Infection.

Fluorion HSV QLP 2.1 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection and genotyping of HSV
Technology	Real-Time PCR with hydrolysis probes
Gene Target	DNA polymerase
Detected Genotypes	HSV-1 and HSV-2
Specimen Type	Serum, plasma
Limit of Detection	HSV 1: 100, HSV 2: 10 copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp MinElute Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
HSV QLP 2.1 Real-Time PCR Kit CE-IVD	M0580302-2	50 tests
HSV QLP 2.1 Real-Time PCR Kit CE-IVD	M0580302-3	100 tests

FLUORION CoVIDenza

Fluorion Covidenza kit has been developed for the detection and separation of SARS-CoV-2, Influenza A and Influenza B viruses from RNA isolates obtained from human samples.

The positive control in the kit is synthetic DNA. It contains target regions of the N1, N2, M2, NS1 and RNAseP genes that are amplified only with the primer-probe sets included in this kit. The content of the positive control tube is not infectious.

REAL-TIME PCR KITS
MICROBIOLOGY

FLUORION CoVIDenza

SAMPLE TYPE	TARGET	SENSITIVITY
• Bronchoalveolar Lavage • Nasopharyngeal Swab • Orofarengeal Swab	SARS-CoV-2 Influenza A Influenza B	10 copies/mL

KIT SPESIFICATIONS	
Intended Use	Qualitative detection and discrimination of Coronavirus 2019 (COVID-19) SARS-CoV-2, Influenza A and Influenza B viruses in patients with COVID-19 or influenza-like clinical symptoms (e.g. fever, cough, shortness of breath), using lower respiratory tract (bronchoalveolar lavage (BAL), tracheal aspirate) and/or upper respiratory tract (nasopharyngeal and oropharyngeal fluids, nasal swab) samples.
Analitycal Specificity *(in vitro analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, Adenovirus, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, *Candida albicans,* RSV A, RSV B, Rhinovirus, *Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, *Mycobacterium tuberculosis, Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Analitycal Specificity *(in silico analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, MERS-CoV, Human coronaviruses (HCoV-229E, HCoV-OC43, HCoV-NL63, HCoV-HKU1), Adenovirus, Influenza C, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Parechovirus, *Candida albicans, Corynebacterium diphtheriae,* Legionella non-pneumophila, *Bacillus anthracis, Moraxella catarrhalis, Neisseria elongata, Neisseria meningitides,* RSV A, RSV B, Rhinovirus, *Pseudomonas aeruginosa, Staphylococcus aureus, Streptococcus salivarius,* Leptospirosis, *Chlamydia psittaci, Coxiella burnetii* (Q- Fever), *Staphylococcus epidermidis,* Enterovirus, *Haemophilus Influenzae, Mycobacterium tuberculosis, Bordetella parapertussis, Mycoplasma pneumoniae, Chlamydia pneumoniae, Legionella pneumophila,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, *Mycobacterium tuberculosis, Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Specificity	100.00%
Target Regions	N1 and N2 regions of nucleocapsid gene of SARS-CoV-2 virus, M2 gene of Influenza A virus, NS1 gene of Influenza B virus Human RNaseP gene (internal control)
Reaction Duration	~45 min. (may change depending on the Real-Time PCR instrument)
Storage Conditions	• Products should be stored at -20°C or below. • It is recommended not to freeze-thaw products more than three times. In cases where more freeze-thaw is required, solutions should be aliquoted and stored at -20°C or lower following the first thaw. • Detection mixes are light-sensitive. Aliquoted reagents must be protected from light.

Item	Cat. No.	Pack Size
CoVIDenza QLP 1.0 Real-Time PCR Kit CE-IVD	M1360102-2	50 tests
CoVIDenza QLP 1.0 Real-Time PCR Kit CE-IVD	M1360102-3	100 tests

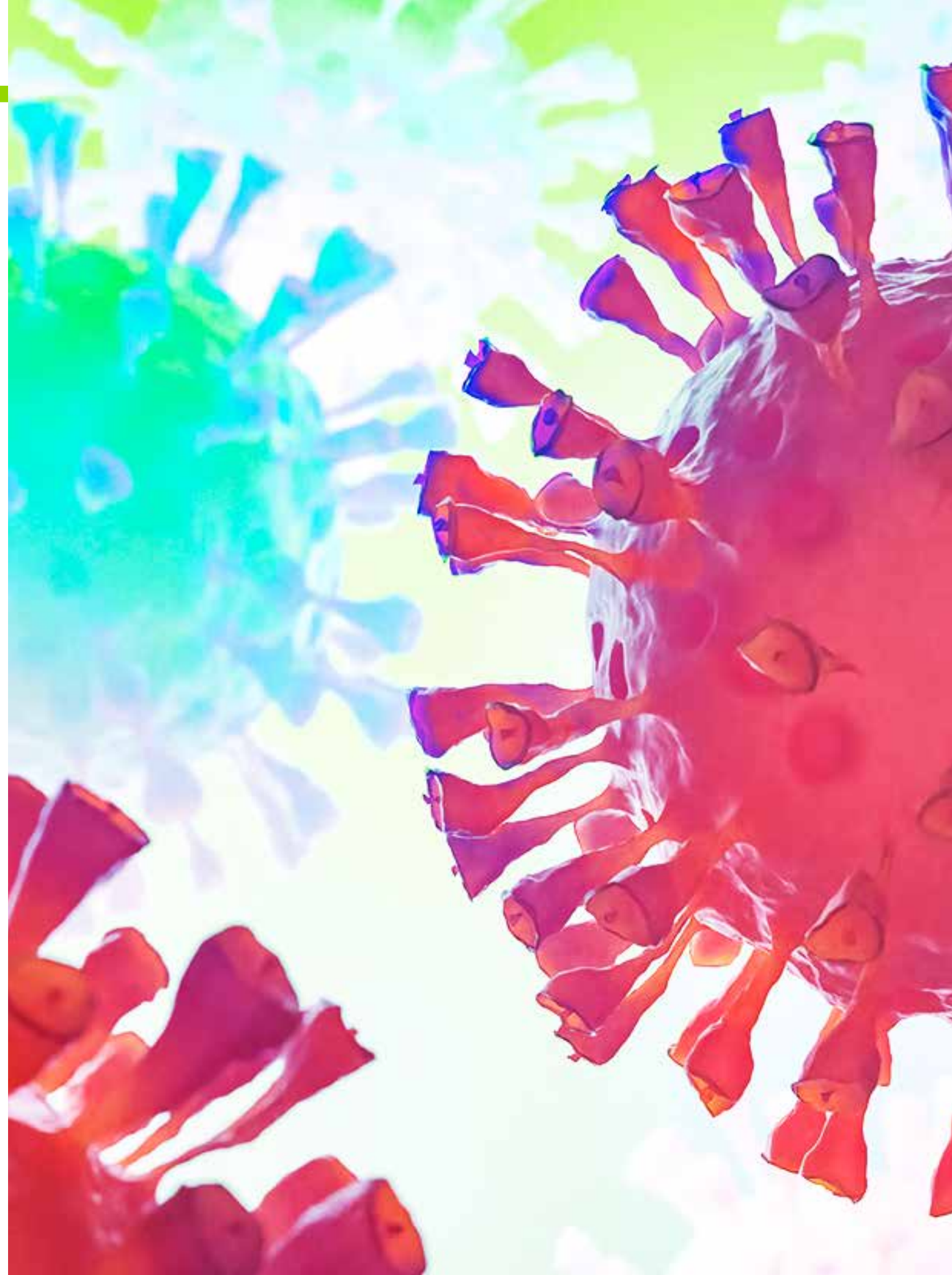
FLUORION CoVIDenza+

SAMPLE TYPE	TARGET	SENSITIVITY
• Bronchoalveolar Lavage • Nasopharyngeal Swab • Orofarengeal Swab	SARS-CoV-2 Influenza A Influenza B RSV and/or Rhinovirus*	10 copies/mL

KIT SPESIFICATIONS	
Intended Use	Qualitative detection and discrimination of Coronavirus 2019 (COVID-19) SARS CoV-2, Influenza A, Influenza B, RSV and Rhinovirus viruses in patients with COVID-19, influenza or common cold like symptoms (e.g. fever, cough, shortness of breath), using lower respiratory tract (bronchoalveolar lavage (BAL), tracheal aspirate) and/or upper respiratory tract (nasopharyngeal and oropharyngeal fluids, nasal swab) samples. Reaction is run with a double tube.
Analitycal Specificity *(in vitro analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, Adenovirus, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, *Candida albicans, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, Mycobacterium tuberculosis, *Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Analitycal Specificity *(in silico analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, MERS-CoV, Human coronaviruses (HCoV-229E, HCoV-OC43, HCoV-NL63, HCoV-HKU1), Adenovirus, Influenza C, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Parechovirus, *Candida albicans, Corynebacterium diphtheriae, Legionella non-pneumophila, Bacillus anthracis, Moraxella catarrhalis, Neisseria elongata, Neisseria meningitides, Pseudomonas aeruginosa, Staphylococcus aureus, Streptococcus salivarius, Leptospirosis, Chlamydia psittaci, Coxiella burnetii (Q- Fever), Staphylococcus epidermidis, Enterovirus, Haemophilus Influenzae, Mycobacterium tuberculosis, Bordetella parapertussis, Mycoplasma pneumoniae, Chlamydia pneumoniae, Legionella pneumophila,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, *Mycobacterium tuberculosis, Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Specificity	100.00%
Target Regions	N1 and N2 regions of nucleocapsid gene of SARS-CoV-2 virus, M2 gene of Influenza A virus, NS1 gene of Influenza B virus, G Protein of RSV 5′ UTR region of Rhinovirus Human RNaseP gene (internal control)
Reaction Duration	~45 min. (may change depending on the Real-Time PCR instrument)
Storage Conditions	• Products should be stored at -20°C or below. • It is recommended not to freeze-thaw products more than three times. In cases where more freeze-thaw is required, solutions should be aliquoted and stored at -20°C or lower following the first thaw. • Detection mixes are light-sensitive. Aliquoted reagents must be protected from light.

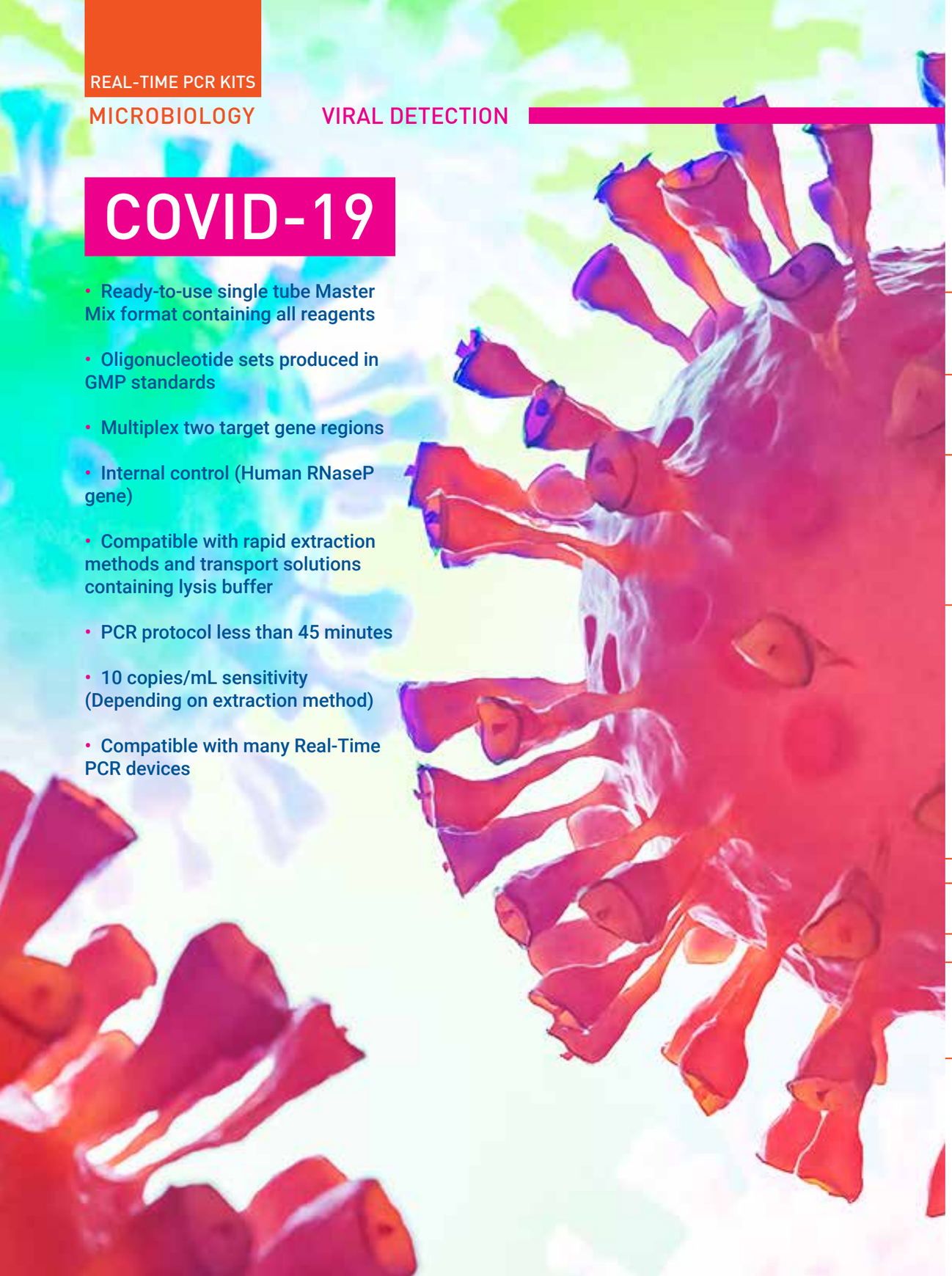
* Please contact for optional requests

Item	Cat. No.	Pack Size
CoVIDenza Plus QLP 1.0 Real-Time PCR Kit CE-IVD	M1370102-2	50 tests
CoVIDenza Plus QLP 1.0 Real-Time PCR Kit CE-IVD	M1370102-3	100 tests



VIRAL DETECTION

COVID-19



- Ready-to-use single tube Master Mix format containing all reagents
- Oligonucleotide sets produced in GMP standards
- Multiplex two target gene regions
- Internal control (Human RNaseP gene)
- Compatible with rapid extraction methods and transport solutions containing lysis buffer
- PCR protocol less than 45 minutes
- 10 copies/mL sensitivity (Depending on extraction method)
- Compatible with many Real-Time PCR devices

REAL-TIME PCR KITS
MICROBIOLOGY

Fluorion nCoV-19 kit has been developed for the detection of SARS-CoV-2 virus from RNA isolates obtained from human samples.

The positive control in the kit is synthetic DNA. It contains target regions of the N1, N2, and RNAseP genes that are amplified only with the primer-probe sets included in this kit. The content of the positive control tube is not infectious.

SAMPLE TYPE	TARGET	SENSITIVITY
• Bronchoalveolar Lavage • Nasopharyngeal Swab • Orofarengeal Swab	SARS-CoV-2	10 copies/mL

KIT SPESIFICATIONS	
Intended Use	Qualitative detection of Coronavirus 2019 (COVID-19) SARS-CoV-2, in patients with COVID-19 symptoms (e.g. fever, cough, shortness of breath), using lower respiratory tract (bronchoalveolar lavage (BAL), tracheal aspirate) and/or upper respiratory tract (nasopharyngeal and oropharyngeal fluids, nasal swab) samples.
Analitycal Specificity *(in vitro analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, Adenovirus, Influenza A, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, *Candida albicans,* RSV A, RSV B, Rhinovirus, *Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, *Mycobacterium tuberculosis, Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Analitycal Specificity *(in silico analysis)*	**DOES NOT** cross-react with the below pathogens: SARS-CoV, MERS-CoV, Human coronaviruses (HCoV-229E, HCoV-OC43, HCoV-NL63, HCoV-HKU1), Adenovirus, Influenza C, Influenza A, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Parechovirus, *Candida albicans, Corynebacterium diphtheriae,* Legionella non-pneumophila, *Bacillus anthracis, Moraxella catarrhalis, Neisseria elongata, Neisseria meningitides,* RSV A, RSV B, Rhinovirus, *Pseudomonas aeruginosa, Staphylococcus aureus, Streptococcus salivarius,* Leptospirosis, *Chlamydia psittaci, Coxiella burnetii* (Q-Fever), *Staphylococcus epidermidis,* Enterovirus, *Haemophilus Influenzae, Mycobacterium tuberculosis, Bordetella parapertussis, Mycoplasma pneumoniae, Chlamydia pneumoniae, Legionella pneumophila,* Hepatitis B, Hepatitis C, Hepatitis Delta, Human Immunodeficiency Virus, Cytomegalovirus, Epstein-Barr Virus, JCV, BKV, Human Papilloma Virus, Parvovirus, Herpes Simplex Virus, *Mycobacterium tuberculosis, Aspergillus spp., Brucella abortus, Brucella melitensis, Brucella canis and Brucella suis, E.coli O157, Salmonella spp., Listeria monocytogenes*
Specificity	100.00%
Target Regions	N1 and N2 regions of nucleocapsid gene of SARS-CoV-2 virus Human RNaseP gene (internal control)
Reaction Duration	~45 min. (may change depending on the Real-Time PCR instrument)
Storage Conditions	• Products should be stored at -20°C or below. • It is recommended not to freeze-thaw products more than three times. In cases where more freeze-thaw is required, solutions should be aliquoted and stored at -20°C or lower following the first thaw. • Detection mixes are light-sensitive. Aliquoted reagents must be protected from light.

Item	Cat. No.	Pack Size
nCoV-19 QLP 2.1 Real-Time PCR Kit CE-IVD	M1350102-3	100 tests
nCoV-19 QLP 2.1 Real-Time PCR Kit CE-IVD	M1350102-5	1000 tests

MTBC

Mycobacterium tuberculosis is a gram positive, non-spore forming bacteria and it is the major cause of tuberculosis in human. Tuberculosis may involve multiple organs such as the lung, liver, spleen, kidney, brain, and bone. In some patients, pulmonary macrophages are unable to contain the bacilli and are overwhelmed, leading to a clinically apparent infection. This is more common in patients who are immunocompromised, notably the population with HIV/AIDS. The primary infection usually has no symptoms. 95% of individuals will have healing of their primary tuberculous lesions with no further evidence of disease. Disseminated disease develops in the minority whose immune systems do not successfully heal the primary infection.

Fluorion MTBC QLP 2.1 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection of MTBC
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Insertion sequence
Detected Genotypes	Whole M. Tuberculosis complex family
Specimen Type	Serum, plasma, sputum, CSF, alveolar lavage
Limit of Detection	800 copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
MTBC QLP 2.1 Real-Time PCR Kit CE-IVD	M0030102-2	50 tests
MTBC QLP 2.1 Real-Time PCR Kit CE-IVD	M0030102-3	100 tests

VRE

Enteroccocci are bacteria that are normally present in the human intestines and in the female genital tract. These bacteria can sometimes cause infections. Vancomycin is an antibiotic that is used to treat some drug-resistant infections caused by enterococci. In some instances, enterococci have become resistant to this drug and thus are called Vancomycin-Resistant Enterococci (VRE). VRE has become an important clinical concern, and it is now accepted as an emerging problem in hospitals. In enterococci, two principal phenotypes of acquired vancomycin resistance have been described, VanA and VanB. Strains with VanA phenotype possess high level resistance to both vancomycin and teicoplanin, whereas strains with VanB phenotype possess only moderate to high levels of vancomycin resistance (Rapid and accurate identification of VRE is crucial in the treatment of infected patients, to allow selection of appropriate antimicrobial treatment and to implement appropriate infection control procedures).

Fluorion VRE QLP 1.0 Real-Time PCR Kit is based on the real-time PCR principle. The pathogen is detected using fluorescent dyes that are incorporated into oligonucleotide probes. The assay utilizes the 5' exonuclease activity of Taq Polymerase to cleave a dual-labeled fluorescent hydrolysis probe during the extension phase of PCR.

Principle of the Test	Detection of VRE
Technology	Real-Time PCR with hydrolysis probes
Gene Target	vanA and vanB genes
Detected Genotypes	All vancomycin resistant genotypes
Specimen Type	Serum, plasma
Limit of Detection	100 copies/ml
Controls	Inhibition and extraction control, negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek)*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
VRE QLP 1.0 Real-Time PCR Kit CE-IVD	M0630102-2	50 tests
VRE QLP 1.0 Real-Time PCR Kit CE-IVD	M0630102-3	100 tests

DİKKAT

FV LEIDEN

Factor V Leiden is a genetic disorder inherited in an otosomal dominant manner. The disorder results in 50% of the familial thrombophilia cases. Thrombophilia is a term used to describe a group of conditions in which there is an increased tendency, for excessive clotting. The most common mutation associated with inherited thrombosis in the Caucasian population is the Factor V Leiden mutation, which leads to resistance to activated protein C. A point mutation at position 1691 of the Factor V gene, renders the gene product resistant to degradation by APC (activated protein C), which results in excessive clotting. Heterozygotes for the Factor V Leiden mutation have an approximately 5 to 10-fold increased risk for venous thrombosis.

Principle of the Test	Detection of the Factor V Leiden G1691A mutation
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Factor V Leiden
Detected Genotypes	Wild type and mutant
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
Factor V Leiden (G1691A) QLP 4.0 Real-Time PCR Kit CE-IVD	G0990402-2	50 tests
Factor V Leiden (G1691A) QLP 4.0 Real-Time PCR Kit CE-IVD	G0990402-3	100 tests

REAL-TIME PCR KITS
MOLECULAR GENETICS

FACTOR II KIT (PROTHROMBIN)

Thrombophilia affects a large number of individuals in the world. The most common mutation associated with inherited thrombosis in the Caucasian population is the Factor V Leiden mutation, which leads to resistance to activated protein C. The second most common mutation associated with hereditary thrombosis is the G20210A mutation in the prothrombin (Factor II) gene, which is associated with high plasma prothrombin levels. Heterozygous carriers of the prothrombin 20210 G-A mutation have an estimated 3 to 8-fold increased risk for venous thrombosis.

Principle of the Test	Detection of the Factor II G20210A mutation
Technology	Real-Time PCR with hydrolysis probes
Gene Target	Factor II
Detected Genotypes	Wild type and mutant
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
Prothrombin (G20210A) QLP 4.0 Real-Time PCR Kit CE-IVD	G1000402-2	50 tests
Prothrombin (G20210A) QLP 4.0 Real-Time PCR Kit CE-IVD	G1000402-3	100 tests

MTHFR 1298 KIT

Thrombophilia is a term used to describe a group of conditions in which there is an increased tendency, for excessive clotting. Another risk factor for venous thrombosis is increased plasma homocysteine level, which is associated with homozygosity for a nucleotide variants in the methylenetetrahydrofolate reductase (MTHFR) gene. The MTHFR 677 C-T variant (leading to an alanine to valine substitution) and the 1298 A-C variant (leading to a glutamic acid to alanine substitution) result in a thermolabile enzyme and decreased production of folate, which is a cofactor required for homocysteine remethylation.

Principle of the Test	Detection of the MTHFR A1298C mutation
Technology	Real-Time PCR with hydrolysis probes
Gene Target	MTHFR
Detected Genotypes	Wild type and mutant
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
MTHFR (A1298C) QLP 4.0 Real-Time PCR Kit CE-IVD	G1030402-2	50 tests
MTHFR (A1298C) QLP 4.0 Real-Time PCR Kit CE-IVD	G1030402-3	100 tests

REAL-TIME PCR KITS
MOLECULAR GENETICS

MTHFR 677 KIT

Another risk factor for venous thrombosis is increased plasma homocysteine level, which is associated with homozygosity for a nucleotide variant in the methylenetetrahydrofolate reductase (MTHFR) gene. The MTHFR 677 C-T variant (leading to an alanine to valine substitution) results in a thermolabile enzyme and decreased production of folate, which is a cofactor required for homocysteine remethylation.

Principle of the Test	Detection of the MTHFR C677T mutation
Technology	Real-Time PCR with hydrolysis probes
Gene Target	MTHFR
Detected Genotypes	Wild type and mutant
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	Extraction QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) Amplification Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
MTHFR (C677T) QLP 4.0 Real-Time PCR Kit CE-IVD	G1010402-2	50 tests
MTHFR (C677T) QLP 4.0 Real-Time PCR Kit CE-IVD	G1010402-3	100 tests

PAI KIT

Plasminogen activator inhibitor-1(PAI-1), or serpin E1, is a serine protease inhibitor (serpin) encoded by the human SERPINE1 gene. PAI-1 is a major inhibitor of fibrinolysis, a process that prevents blood clots from growing and becoming problematic. Increased PAI-1 activity results in depressed fibrinolytic activity resulting in elevated risk for thrombosis (formation of blood clots).

Homozygous wild-type (5G/5G) – Normal PAI-1 activity and normal risk of thrombosis Heterozygous (4G/5G) – Increased PAI-1 activity resulting in depressed fibrinolysis and increased risk of thrombosis. Homozygous mutant (4G/4G) – Significantly increased PAI-1 activity resulting in depressed fibrinolysis and increased risk of thrombosis.

Principle of the Test	Detection of the PAI-1 4G-5G mutation
Technology	Real-Time PCR with hydrolysis probes
Gene Target	PAI-1
Detected Genotypes	Wild type and mutant
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

* Please contact for other instruments

Item	Cat. No.	Pack Size
PAI-1 (4G/5G) QLP 4.0 Real-Time PCR Kit CE-IVD	G1020402-2	50 tests
PAI-1 (4G/5G) QLP 4.0 Real-Time PCR Kit CE-IVD	G1020402-3	100 tests

HLA B27 KIT

The human leukocyte antigen HLA-B27 is strongly associated with spondyloarthropathies (SpA), a group of inflammatory rheumatic diseases including ankylosing spondylitis (AS). HLA-B27 is found in 90–95% of AS patients. It is also found in a lower proportion of patients with reactive arthritis and some forms of psoriatic arthritis (PsA). Twenty-four HLA-B27 subtypes have been detected and differ only by a small number of nucleotide substitutions within exons 2 and 3 of the HLA-B27 gene. Although the exact mechanism determining disease susceptibility is still unknown, testing for HLA-B27 is a valuable tool for the diagnosis of AS and SpA.

Principle of the Test	Detection of the HLA B27 ALLELE
Technology	Real-Time PCR with hydrolysis probes
Gene Target	HLA B27
Detected Genotypes	HLA B27
Specimen Type	Whole blood
Minimum DNA Concentration	50 ng/ul DNA
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp DNA Blood Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek) **Amplification** Fluorion Detection System (Iontek), MIC*
Status	For in vitro diagnostic use

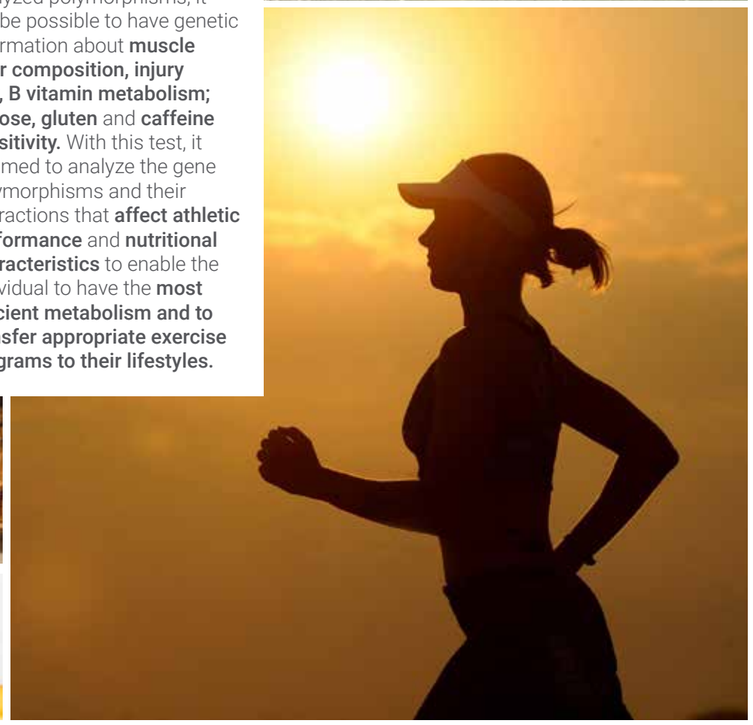
* Please contact for other instruments

Item	Cat. No.	Pack Size
HLA B27 QLP 1.0 Real-Time PCR Kit CE-IVD	G0570102-2	50 tests
HLA B27 QLP 1.0 Real-Time PCR Kit CE-IVD	G0570102-3	100 tests

LIFESTYLE

TEST REPORT

Polymorphisms that were found to be related to athletic performance and nutritional properties in the literature have been examined to ensure that genotypic characteristics are taken into account in determining appropriate exercises and establishing diets. With the analyzed polymorphisms, it will be possible to have genetic information about **muscle fiber composition, injury risk, B vitamin metabolism; lactose, gluten** and **caffeine sensitivity.** With this test, it is aimed to analyze the gene polymorphisms and their interactions that **affect athletic performance** and **nutritional characteristics** to enable the individual to have the **most efficient metabolism and to transfer appropriate exercise programs to their lifestyles.**

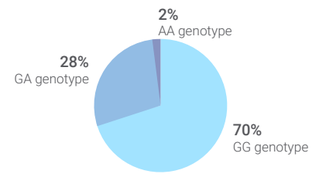


REAL-TIME PCR KITS
MOLECULAR GENETICS

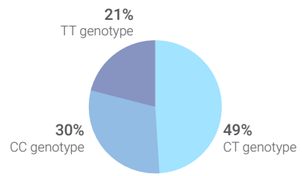
LIFESTYLE

ATHLETIC PERFORMANCE TEST REPORT

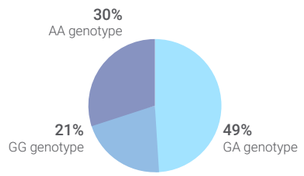
rs1800629



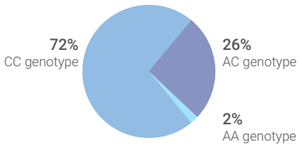
rs181573



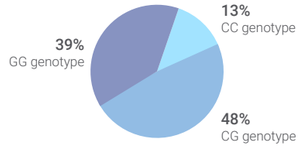
rs699



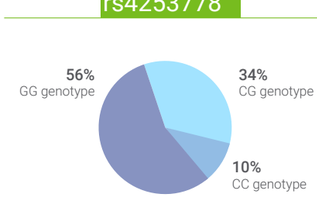
rs1800012



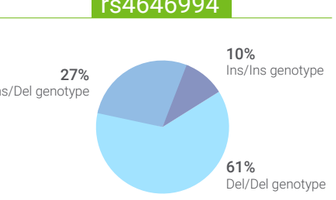
rs1800795



rs4253778



rs4646994



In previous studies, the effects of ACTN3 (rs1815739), ACE (rs4646994)[1], COL1A1 (rs1800012)[2], TNF-α (rs1800629), IL6 (rs1800795)[3], AGT (rs699)[4], PPARa (rs4253778)[5] polymorphisms in sports performance and injury risk have been determined.

PROCEDURE

DNA Isolation	Real-Time PCR	Analysis of Results
• The sample taken from the oral epithelium with a swab is placed in the given liquid. • DNA will be extracted using a DNA isolation kit.	• The Lifestyle Test • In Real-Time PCR Master mix Sample	• After Real-Time PCR Step, experiment files will be uploaded into the Cloud. • In Analysis Phase, results from Melt Curve Analysis will be interpreted.

REFERENCES

1. Papadimitriou, I. D., Lucia, A., Pitsiladis, Y. P., et. al. (2016). ACTN3 R577X and ACE I/D gene variants influence performance in elite sprinters: a multi-cohort study. BMC genomics, 17, 285

2. Collins, M., Posthumus, M., & Schwellnus, M. P. (2010). The COL1A1 gene and acute soft tissue ruptures. British journal of sports medicine, 44(14), 1063-1064.

3. Moldoveanu, A. I., Shephard, R. J., & Shek, P. N. (2000). Exercise elevates plasma levels but not gene expression of IL-1beta, IL-6, and TNF-alpha in blood mononuclear cells. Journal of applied physiology

4. Aleksandra Z, Zbigniew J, Waldemar M, Agata LD, Mariusz K, Marek S, Agnieszka MS, Piotr Ż, Krzysztof F, Grzegorz T, Ewelina LK, Semenova EA, Ahmetov II, Paweł C. (2016) The AGT Gene M235T Polymorphism and Response of Power-Related Variables to Aerobic Training. J Sports Sci Med.

5. Lopez-Leon S, Tuvblad C, Forero DA. (2016).Sports genetics: the PPARA gene and athletes' high ability in endurance sports. A systematic review and meta-analysis. Biol Sport.

MEAT SPECIES IDENTIFICATION

Meat products can be composed of different sources. The composition and ratio of each meat species should be documented on the cover of the package. The variability of meat prices in different regions can cause fraudulent production using undeclared meat species and ratios. The most frequent meat species used are cow, sheep, pig, horse, donkey, turkey and chicken.

Techniques like hybridization, PCR and PCR-RFLP have been frequently used for meat species identification. However, these techniques are not suitable for analyzing mixtures. On the other hand, Real-Time PCR is especially suitable for mixtures and cooked products, since the target region used for amplification is considerably short (50-150 bp), which enables the analysis of degraded material.

Principle of the Test	Meat Species Identification
Technology	Real-Time PCR with hydrolysis probes
Gene Target	CYTOCHROME B
Detected Species	Cow, sheep, pig, horse, donkey, turkey and chicken
Specimen Type	Meat, tissue
Limit of Detection	0.001% of mixture
Controls	Negative control, positive control
Storage Condition	Below -20 °C
Necessary Equipment	**Extraction** QIAamp DNA Mini Kit (Qiagen), Fluorion i12, i24/i12 Nucleic Acid Extraction Kit (Iontek), ExiPrep 16 Plus (Bioneer) Extraction System Exiprep Tissue Genomic DNA Kit **Amplification** Fluorion Detection System (Iontek), MIC*
Status	RUO

* Please contact for other instruments

Item	Cat. No.	Pack Size
Meat. Spec. Ident. QLP 1.0 Real-Time PCR Kit RUO	F0560102-2	50 tests
Meat. Spec. Ident. QLP 1.0 Real-Time PCR Kit RUO	F0560102-3	100 tests

LABORATORY EQUIPMENT

FLUORION i-SERIES

The Fluorion i-series extraction systems are innovative compact magnetic bead based benchtop workstations for flexible fully-automated isolation of nucleic acids from up to 24 samples.

Usage of pre-filled reagent cartridges and disposable consumables enable a true walk-away automation and high quality extraction.

The systems provide error-free identification with barcode scanner, pre-installed protocols with free updating, ready to use prefilled reagents and all required labware for all sample types. Isolation of pure nucleic acids from a variety of sample types can be performed in 35-50 min. The systems are equiped with UV decontamination and high cross-contamination protection.

Item	Cat. No.	Description	Pack Size
Fluorion i12	FZP01001	Bench-top autoextractor for rapid purification of nucleic acids from 1-12 biological samples	1 instrument and barcode reader
Fluorion i24	FZP01003	Bench-top autoextractor for rapid purification of nucleic acids from 1-24 biological samples	1 instrument and barcode reader

FLUORION

AUTOMATED EXTRACTION KITS

Item	Cat. No.	Description	Pack Size
Fluorion i12 Blood DNA Extraction Kit (200)	FZP02001	For extracting genomic DNA from mammalian whole blood, peripheral blood mononuclear cell, or buffy coat **Sample volume range: up to 400 µL**	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Blood DNA Extraction Kit (1200)	FZP02002	For extracting genomic DNA from mammalian whole blood, peripheral blood mononuclear cell, or buffy coat **Sample volume range: up to 400 µL**	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Viral Nucleic Acid Extraction Kit	FZP02003	For extracting viral nucleic acids from plasma, serum or cell-free body fluids **Sample volume range: up to 400 µL**	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Tissue DNA Extraction Kit	FZP02004	For extracting genomic DNA from a variety of animal tissues, swap and blood stain	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Cultured Cell DNA Extraction Kit	FZP02005	For extracting genomic DNA from up to $5x10^6$ cultured cells	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Bacterial DNA Extraction Kit	FZP02006	For extracting genomic DNA from Bacteria	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 HPV DNA Extraction Kit for Swab samples	FZP02007	For extracting HPV DNA from swab sample	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 TB DNA Extraction Kit for Swab samples	FZP02008	For extracting ***Mycobacterium tuberculosis*** DNA from sputum, pulmonary and cultured samples	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 FFPE DNA Extraction Kit for Swab samples	FZP02009	For extracting genomic DNA from formalin-fixed, paraffin-embedded tissue (FFPE) samples	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Forensic DNA Extraction Kit for Swab samples	FZP02010	For extracting genomic DNA from a wide range of forensic and human identity samples, such as casework or crime-scene samples, dried blood, bone, and sexual assault samples, swabs, and filters.	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Viral/ Pathogen Nucleic Acids Extraction Kit A	FZP02011	For extracting viral DNA/RNA and pathogen DNA from cell free samples	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Viral/ Pathogen Nucleic Acids Extraction Kit B	FZP02012	For extracting viral DNA/RNA and pathogen DNA from swab samples	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Viral RNA Extraction Kit	FZP02013	For extracting viral RNA from plasma or serum.	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Plant DNA Extraction Kit	FZP02014	For extracting gDNA from plant	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Total RNA Extraction Kit	FZP02015	For extracting total RNA from a variety of sample types	1 kit (48 extractions) *including all required plastic disposables*
Fluorion i12 Viral Nucleic Acid Extraction Kit 800	FZP02016	For extracting viral nucleic acids from plasma, serum or cell-free body fluids **Sample volume range: up to 800 µL**	1 kit (48 extractions) *including all required plastic disposables*

PRODUCTS LIST

PRODUCTS LIST

FLUORION REAL-TIME PCR KITS

FLUORION REAL-TIME PCR KITS

MICROBIOLOGY

	VIRAL			
1	Fluorion HCV QNP 2.1	Hepatitis C Virus QUANTITATIVE	IVD-CE	M0020202
2	Fluorion HDV QNP 1.0	Hepatitis Delta Virus QUANTITATIVE	IVD-CE	M0060202
3	Fluorion HIV-1 QNP 1.1	Human Immunodeficiency Virus-1 QUANTITATIVE	IVD-CE	M0290202
4	Fluorion HBV QNP 2.0	Hepatitis B Virus QUANTITATIVE	IVD-CE	M0010202
5	Fluorion CMV QNP 3.0	Human Cytomegalovirus QUANTITATIVE	IVD-CE	M0380202
6	Fluorion H1N1 QLP 2.0	H1N1 QUALITATIVE	RUO	M0480102
7	Fluorion EBV QNP 1.0	Epstein-Barr Virus QUANTITATIVE	IVD-CE	M0360202
8	Fluorion Parvovirus B19 QNP 1.0	Parvovirus B19 QUANTITATIVE	IVD-CE	M0410202
9	Fluorion HSV QLP 2.1	Herpes Simplex Virus 1/2 QUALITATIVE	IVD-CE	M0580302
10	Fluorion HCV Genotyping 1.0	Hepatitis C Virus 1/2/3/4 Genotyping	RUO	M0490302
11	Fluorion BKV QNP 1.0	BK Virus QUANTITATIVE	IVD-CE	M0610202
12	Fluorion JCV QNP 1.0	JC Virus QUANTITATIVE	IVD-CE	M0620202
13	Fluorion RSV QLP 1.0	Respiratory Syncytial Virus QUALITATIVE	IVD-CE	M1400102
14	Fluorion Influenza A/B QLP 1.0	Influenza A and Influenza B Viruses QUALITATIVE	IVD-CE	M1410102
15	Fluorion nCoV-19 QLP 2.1	SARS-CoV-2 QUALITATIVE	IVD-CE	M1350102
16	Fluorion nCoV-19 QLP 2.2	SARS-CoV-2 QUALITATIVE	IVD-CE	M1490102
17	Fluorion Rhinovirus QLP 1.0	Rhinovirus QUALITATIVE	IVD-CE	M1420102
18	Fluorion Adenovirus QLS 1.0	Adenovirus QUALITATIVE	IVD-CE	M0390101
19	Fluorion HPV QNS 1.1	Human Papilloma Virus Screening	IVD-CE	M0080301
20	Fluorion HPV 6-11 Low Risk Genotyping QLP 1.0	Human Papilloma Low Risk Virus Genotyping	IVD-CE	M1440302
21	Fluorion HPV High Risk Genotyping QLP 1.0	Human Papilloma High Risk Virus Genotyping	IVD-CE	M0080302
22	Fluorion CoVIDenza QLP 1.0	SARS-CoV-2 and Influenza A and B Viruses QUALITATIVE	IVD-CE	M1360102
23	Fluorion CoVIDenza Plus QLP 1.0	SARS-CoV-2, Influenza A and B Viruses and Respiratory Syncytial Virus QUALITATIVE	IVD-CE	M1370102
24	Fluorion CoVIDenza Plus QLP 2.0	SARS-CoV-2, Influenza A and B Viruses and Rhinovirus QUALITATIVE	IVD-CE	M1380102
25	Fluorion CoVIDenza Plus QLP 3.0	SARS-CoV-2, Influenza A and B Viruses, Respiratory Syncytial Virus and Rhinovirus QUALITATIVE	IVD-CE	M1390102
	BACTERIAL			
1	Fluorion MTBC QLP 2.1	*Mycobacterium tuberculosis* QUALITATIVE	IVD-CE	M0030102
2	Fluorion Brucella QLP 2.0	*Brucella spp.* QUALITATIVE	RUO	M0070102
3	Fluorion VRE QLP 1.0	*Vancomycin-resistant Enterococcus spp.* QUALITATIVE	IVD-CE	M0630102
4	Fluorion MRSA QLP 1.0	*Methicillin-resistant Staphylococcus aureus* QUALITATIVE	IVD-CE	M0350102
5	Fluorion Ureoplasma QLP 1.0	*Ureoplasma spp.* QUALITATIVE	RUO	M0530102
	PARASITIC			
1	Fluorion Leishmania QLS 1.0	*Leishmania spp.* QUALITATIVE	IVD-CE	M0250101
	FUNGAL			
1	Fluorion Aspergillus QLP 1.0	*Aspergillus spp.* QUALITATIVE	IVD-CE	M0510102

MOLECULAR GENETICS

1	Fluorion FVL 4.0	Factor V Leiden Mutation DETECTION	IVD-CE	G0990402
2	Fluorion MTHFR C677 T QLP 4.0	MTHFR C677T Mutation DETECTION	IVD-CE	G1010402
3	Fluorion MTHFR A1298C QLP 4.0	MTHFR A1298C Mutation DETECTION	IVD-CE	G1030402
4	Fluorion Prothrombin G20210A QLP 4.0	MTHFR (Factor II/G20210A) Mutation DETECTION	IVD-CE	G1000402
5	Fluorion PAI-1 4G-5G QLP 4.0	PAI-1 4G/5G Deletion Mutation DETECTION	IVD-CE	G1020402
6	Fluorion HLA B27 QLP 1.0	HLA-B27 Mutation DETECTION	IVD-CE	G0570102
7	Fluorion IL28B QLP 1.0	Interleukin 28B Mutation DETECTION	IVD-CE	G0680402
8	Fluorion HFE H63D QLP 1.0	Hereditary Hemochromatosis H63D Mutation DETECTION	IVD-CE	G0470402
9	LifeStyle QLM 1.0		RUO	G1640414

**Fluorion Factor V Leiden (G1691A) QLP 4.0, Fluorion Prothrombin (G20210A) QLP 4.0, MTHFR (A1298C) QLP 4.0, MTHFR (C677T) QLP 4.0, PAI-1 (4G/5G) QLP 4.0 kits have common PCR protocol.*

FOOD

1	Fluorion Meat Spec. Ident. QLP 1.0**	RUO	F0560102
	• PORK (Sus scrofa) DNA IDENTIFICATION QLP 1.0*	RUO	F1070102
	• BOVINE (Bos taurus) DNA IDENTIFICATIN QLP 1.0*	RUO	F1080102
	• HORSE (Equus caballus) DNA IDENTIFICATION QLP 1.0*	RUO	F1090102
	• SHEEP (Ovis aries) DNA IDENTIFICATION QLP 1.0*	RUO	F1100102
	• CHICKEN (Gallus gallus) DNA IDENTIFICATION QLP 1.0*	RUO	F1110102
	• TURKEY (Meleagris gallopavo) DNA IDENTIFICATION QLP 1.0*	RUO	F1120102
	• DONKEY (Equus asinus) DNA IDENTIFICATION QLP 1.0*	RUO	F1130102
2	Fluorion Listeria monocytogenes QLP 1.0 — *Listeria monocytogenes* QUALITATIVE	RUO	F0970102
3	Fluorion Salmonella QLP 1.0 — *Salmonella spp.* QUALITATIVE	RUO	F0520102
4	Fluorion GMO QLP 1.0 — GMO DETECTION	RUO	F0500102

**Can be ordered separately.*
***Fluorion Meat Species Identification Kit contains detection mixes for each 7 species.*

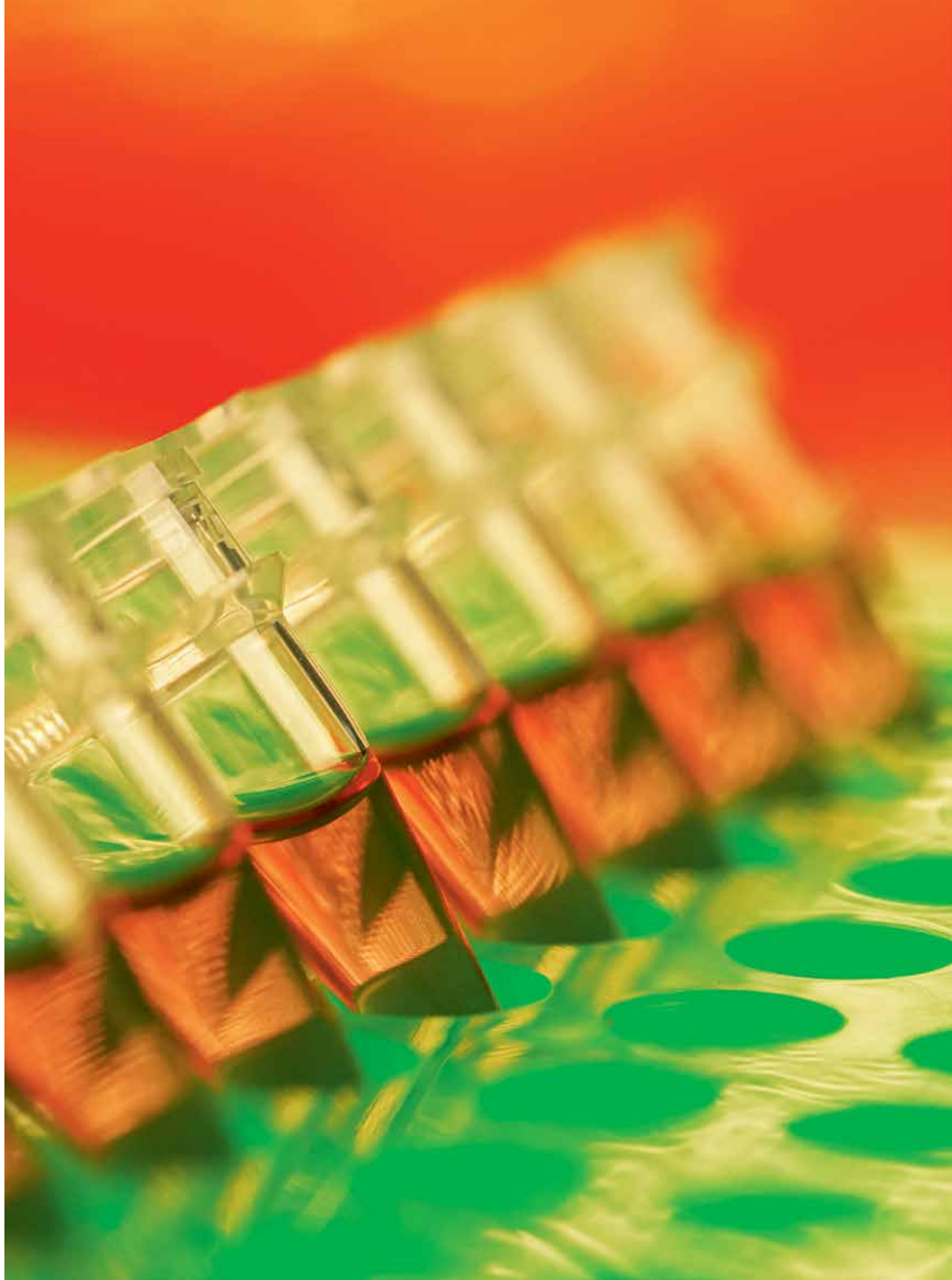
LABORATORY EQUIPMENT

	Real-Time PCR			
1	FDS-48	Fluorion Detection System-48	48 sample capacity	D001001
2	FDS-96	Fluorion Detection System-96	96 sample capacity	D001002
	Extraction Systems			
1	Fluorion	i12 Extraction System	1-12 Extraction	FZP01001
2	Fluorion	i24 Extraction System	1-24 Extraction	FZP01003

FLUORION

AUTOMATED EXTRACTION KITS

	Extraction Kits			
1	Fluorion i12	Blood DNA Extraction Kit (200)	For extracting genomic DNA from mammalian whole blood, peripheral blood mononuclear cell, or buffy coat **Sample volume range: up to 400 µL**	FZP02001
2	Fluorion i12	Blood DNA Extraction Kit (1200)	For extracting genomic DNA from mammalian whole blood, peripheral blood mononuclear cell, or buffy coat **Sample volume range: up to 400 µL**	FZP02002
3	Fluorion i12	Viral Nucleic Acid Extraction Kit	For extracting viral nucleic acids from plasma, serum or cell-free body fluids **Sample volume range: up to 400 µL**	FZP02003
4	Fluorion i12	Tissue DNA Extraction Kit	For extracting genomic DNA from a variety of animal tissues, swap and blood stain	FZP02004
5	Fluorion i12	Cultured Cell DNA Extraction Kit	For extracting genomic DNA from up to $5x10^6$ cultured cells	FZP02005
6	Fluorion i12	Bacterial DNA Extraction Kit	For extracting genomic DNA from Bacteria	FZP02006
7	Fluorion i12	HPV DNA Extraction Kit for Swab samples	For extracting HPV DNA from swab sample	FZP02007
8	Fluorion i12	TB DNA Extraction Kit for Swab samples	For extracting Mycobacterium tuberculosis DNA from sputum, pulmonary and cultured samples	FZP02008
9	Fluorion i12	FFPE DNA Extraction Kit for Swab samples	For extracting genomic DNA from formalin-fixed, paraffin-embedded tissue (FFPE) samples	FZP02009
10	Fluorion i12	Forensic DNA Extraction Kit for Swab samples	For extracting genomic DNA from a wide range of forensic and human identity samples, such as casework or crime-scene samples, dried blood, bone, and sexual assault samples, swabs and filters.	FZP02010
11	Fluorion i12	Viral/Pathogen Nucleic Acids Extraction Kit A	For extracting viral DNA/RNA and pathogen DNA from cell free samples	FZP02011
12	Fluorion i12	Viral/Pathogen Nucleic Acids Extraction Kit B	For extracting viral DNA/RNA and pathogen DNA from swab samples	FZP02012
13	Fluorion i12	Viral RNA Extraction Kit	For extracting viral RNA from plasma or serum	FZP02013
14	Fluorion i12	Plant DNA Extraction Kit	For extracting gDNA from plant	FZP02014
15	Fluorion i12	Total RNA Extraction Kit	For extracting total RNA from a variety of sample types	FZP02015
16	Fluorion i12	Viral Nucleic Acid Extraction Kit 800	For extracting viral nucleic acids from plasma, serum or cell-free body fluids **Sample volume range: up to 800 µL**	FZP02016



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