

RT-PCR RESEARCH SOLUTIONS

*Analyzing Complex
Rare Diseases*

A detailed 3D rendering of a virus particle, showing its complex, spherical, and textured surface. The virus is illuminated with a mix of purple, blue, and red light, giving it a glowing appearance. It is surrounded by other smaller, less distinct virus particles in the background, creating a sense of depth and focus on the primary structure.

Infectious Diseases

For various viral infections, high sensitivity and specificity are required for early detection and prevention of further spread.

Qualitative detection of infectious diseases is accomplished by viral RNA detection using reverse transcription-polymerase chain reaction (RT-PCR) Kits.

Sepsis-Q Real Time PCR Kit

- A condition commonly caused by inflammatory response of immune system to bacterial, viral, protozoan or fungal infections.
- Highly comprehensive assay for detection of 19 causative organisms including:

Pathogens Covered

- E. coli
- S. aureus
- Enterococcus faecalis
- Klebsiella pneumoniae
- Staphylococcus spp
- Enterococcus faecium
- Acinetobacter baumannii
- Stenotrophomonas maltophilia
- Pseudomonas aeruginosa,
- Candida albicans
- Staphylococcus epidermidis
- Candida glabrata
- Aspergillus spp.
- Candida tropicalis
- Streptococcus spp.
- Haemophilus influenzae (type B)
- Streptococcus pneumonia
- Listeria monocytogenes
- Salmonella enterica



Sample Source : Culture & whole blood samples.



Anti Microbial Resistance AMR (MDR-Q Real Time PCR Kit)

This kit is used for in vitro qualitative detection of *Klebsiella pneumoniae* (KPN), *Acinetobacter baumannii* (Aba), *Pseudomonas aeruginosa* (PA) and four carbapenem resistance genes (which include KPC, NDM, OXA48 and IMP) in human sputum samples & *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* nucleic acids in human sputum samples, skin and soft tissue infection samples, and whole blood samples.

Antibiotic class	Prevalent genes
Carbapenems	NDM KPC VIM IMP OXA-48 OXA-23
Methicillin	mecA
ESBLs	TEM CTX-M SHV VEB
Vancomycins	VanA VanC VanB
Colistin	MCR-1
SXT	dfrA1 dfrA5 Sul1 sul2
Plasmid-mediated quinolone resistance (PMQR)	aac6'-Ib-cr qnrS qnrA



Sample Source : Human sputum samples, skin and soft tissue infection samples & whole blood samples.

MCP-Q Comprehensive Real Time PCR Kit (Meningitis Comprehensive Panel)

Aims to qualitatively detects & differentiates causative organisms for major infections related to the inflammation of protective membranes of brain and spinal cord.

Pathogens Covered

- Herpes simplex virus 1
- Herpes simplex virus 2
- Varicella-Zoster virus
- Parvovirus B19
- Human Herpesvirus 6 (HHV-6)
- Human Herpesvirus 7 (HHV-7)
- Enterovirus
- Parechovirus
- Haemophilus influenzae
- Neisseria meningitidis
- Streptococcus pneumoniae

Wound Panel* Real Time PCR Kit

- Wound infections caused by various pathogens can retard the healing process by increasing complications and delaying the treatment of the wound.
- The wound panel is designed to assess the wound infections that are caused by a range of bacterial and fungal pathogens.
- The test offers valuable insights to healthcare providers to make targeted treatment decisions and optimal wound care management.

Pathogens Covered

- Staphylococcus aureus
- coNs (Staphylococcus epidermidis & Staphylococcus haemolyticus)
- Pseudomonas aeruginosa
- E. Coli
- Klebsiella pneumoniae
- Klebsiella oxytoca
- Enterococcus faecalis
- Proteus mirabilis
- Proteus vulgaris
- Acinetobacter baumannii
- Citrobacter freundii
- Citrobacter koseri
- Enterobacter cloacae
- Group A & B Haemolytic streptococcus
- Morganella morganii
- Bacteroides spp
- Clostridium spp
- Candida Non albicans
- Peptostreptococcus spp
- Fusobacterium spp
- Actinomycetes spp
- Aspergillus sp.
- Fusarium sp.
- Candida parapsilosis
- C. tropicalis
- C. glabrata
- Aspergillus sp.
- C. albicans

*RUO only



Sample Source : Wound samples



UTI-Q panel* Real Time PCR Kit

- Urinary tract infections (UTIs) can be chronic, recurrent or even lethal, wherein identification of the cause of infection is instrumental in combating it.
- Conventional culture-based methods can be combined with the faster and accurate RT-PCR based approach to attain higher level of sensitivity in detecting high risk dangerous and complicated pathogens.
- Multiplexed detection offered by RT-PCR helps in choosing the appropriate antibiotic for each infection.
- UTI Real time PCR kit enables qualitative detection and differentiation of 23 UTI-causing microbiota (bacteria and fungi) in a multiplexed and cost-effective manner.

Pathogens Covered

- Escherichia coli
- Klebsiella pneumonia
- Pseudomonas aeruginosa
- Acinetobacter baumannii
- Proteus mirabilis
- Proteus vulgaris
- Citrobacter freundii
- Enterobacter aerogenes
- Enterobacter cloacae
- Klebsiella oxytoca
- Morganella morganii
- Providencia stuartii
- Serratia marcescens
- Staphylococcus saprophyticus
- Streptococcus agalactiae
- Staphylococcus aureus
- Enterococcus faecalis
- Enterococcus faecium
- Candida albicans
- Candida glabrata
- Candida krusei
- Candida parapsilosis
- Candida tropicalis

*RUO only



Sample Source : Urine

GCP-Q Comprehensive Real Time PCR Kit (Gastro-intestinal Comprehensive Panel)

Aims to identify and differentiate major target pathogens of gastro-intestinal infections in clinical samples.

Pathogens Covered

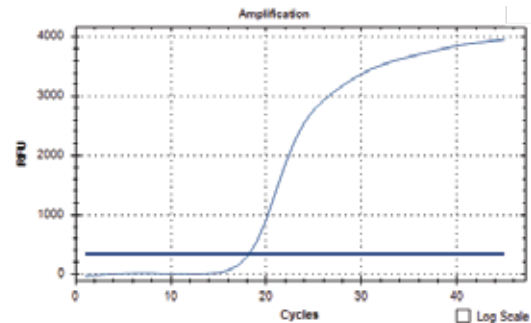
- Rotavirus
- Norovirus Genotype I & Norovirus Genotype II
- Adenovirus
- Clostridium difficile
- Campylobacter spp.
- Salmonella spp.
- enteroinvasive E.coli (EIEC)/Shigella spp.
- verotoxigenic E.coli (VTEC)
- Yersinia enterocolitica
- Entamoeba histolytica
- Cryptosporidium spp.
- Giardia duodenalis



Sample Source : Stool

BK-Q Real Time PCR Kit

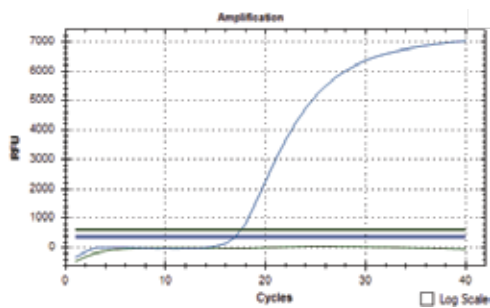
- BK polyomavirus (BK) is a compact DNA virus that can establish a lifelong infection in the renal tubular and uroepithelial cells of the global population.
- In most individuals, this infection remains dormant and harmless. Nonetheless, in people with weakened immune systems, BK virus can become active, potentially resulting in BKPyV-associated nephropathy.
- This kit enables in the detection of Polyomavirus BK virus specific Ag/VP2 gene in clinical samples.



BK-Q Real Time PCR specific amplification plot of BK positive sample (FAM channel) along with internal control (HEX channel).

H. Pylori-Q Real-Time PCR Kit


- Helicobacter pylori (H. pylori) is a bacterium known for infecting the stomach and potentially leading to the development of ulcers and inflammation in the stomach lining or the upper section of the small intestine, known as the duodenum.
- Many cases of peptic ulcers, gastritis, and duodenitis are caused by H. pylori infection and in certain cases, this infection may even elevate the risk of stomach cancer.
- The kit is designed for specific identification of Helicobacter pylori in human stool and tissue samples from patients with signs and symptoms of Helicobacter pylori infection.
- Targets covered: Ure C & Cag A genes.




H. Pylori-Q Real Time PCR specific amplification plot of H. Pylori positive sample (FAM channel) along with internal control (HEX channel).

EBV-Q Real Time PCR Kit


- Epstein-Barr virus (EBV), or human herpesvirus 4, is a widely prevalent member of the herpes virus family. It infects most people globally through saliva, causing conditions like infectious mononucleosis, commonly known as mono.
- Symptoms of EBV infection can include fatigue, fever, inflamed throat, swollen lymph nodes in the neck, enlarged spleen, swollen liver and rash.


 **Targets covered:** EBV 1 & 2 specific LMP-2A gene.

 **Sample Source:** Human blood.

Nipah-Q Real Time PCR Kit


- The Nipah virus (NiV) is a zoonotic virus, capable of transmitting between animals and humans. In nature, fruit bats, often referred to as flying foxes, serve as the primary reservoir for NiV.
- This virus is known to infect both pigs and humans, leading to conditions such as encephalitis (inflammation of the brain) and can result in a range of mild to severe illnesses, sometimes proving fatal.
- This kit enables detection of RNA from Nipah virus in.


 **Targets covered:** NiV specific Nucleocapsid protein gene.

 **Sample Source:** Throat and nasal swab.

VZV-Q Real Time PCR Kit


- Chickenpox, or varicella, is a contagious disease caused by the varicella-zoster virus (VZV), a DNA virus belonging to the herpesvirus family. Following the initial infection, VZV remains dormant in the body, residing in sensory nerve ganglia.
- The first encounter with VZV leads to chickenpox, while the reawakening of this latent infection results in the development of shingles, also known as herpes zoster.


 **Targets covered:** VZV specific ORF29 gene.

 **Sample Source:** Vesicular fluid, lesion swab.

Human Parvovirus-Q Real Time PCR Kit


- Human parvovirus, known as B19, differs from the parvovirus found in dogs and cats. Parvovirus B19 is a common infectious disease that spreads from person to person, usually causing mild or no symptoms.
- In some cases, it affects cells that develop into red blood cells, temporarily halting their production, which is noticeable in individuals with abnormal red blood cell production.


 **Targets covered:** Human Parvovirus (B19) specific NS1 gene.

 **Sample Source:** Blood, Serum, Plasma

C. Albicans-Q Real Time PCR Kit


- Candidiasis is a fungal infection triggered by the yeast *Candida*, with *Candida albicans* being the most prevalent culprit. *Candida* typically resides on and within the body, including areas like the skin, mouth, throat, gut, and vagina, causing no issues.
- In extreme cases infections can occur if *Candida* over grows or penetrates deep into the body, leading to conditions such as bloodstream or internal organ infections like the kidney, heart, or brain.


 **Targets covered:** Small subunit ribosomal RNA gene.

 **Sample Source:** Blood, Genital, Swabs & Fluids

SS-Q Real Time PCR Kit


- *Salmonella* and *Shigella* rank as the second and third leading culprits of bacterial food-related illnesses in the world, contributing significantly to global health challenges.
- Controlling and managing diseases caused by these microbes is made difficult by the rise of drug-resistant varieties and the absence of a viable vaccine.
- Our SS-Q kit provides rapid and accurate detection of *Salmonella* & *Shigella* in stool samples.


 **Targets covered:** *Salmonella* specific fimA gene & *Shigella* specific dnaA gene.

 **Sample Source:** Stool.

Rota-Q Real Time PCR Kit


- Rotavirus is a highly contagious virus that leads to diarrhea and intestinal issues, primarily affecting infants and young children worldwide.
- It results in stomach and intestinal inflammation, leading to severe symptoms like diarrhea, vomiting, fever, abdominal pain, and dehydration in affected individuals, including some adults.


 **Targets covered:** Rotavirus specific mgpB gene.

 **Sample Source:** Stool.

EEC-Q Real Time PCR Kit

- Enteroviruses is a family of viruses responsible for a range of infections, typically result in mild symptoms akin to the common cold. However, in certain instances, particularly among young children or individuals with weakened immune systems, severe complications can emerge.

 **Pathogenes covered:** Enterovirus specific - 5'UTR gene, Enterovirus 71 specific - polyprotein gene and Coxsackie Virus A16 specific - polyprotein gene.

 **Sample Source:** clinical samples including nasal and pharyngeal secretions.

CMV-Q Real Time PCR Kit

- Cytomegalovirus causes serious infections to various body parts and growth problems to new born babies.
- People with weakened immune systems who get CMV can have more serious symptoms affecting the eyes, lungs, liver, esophagus, stomach, and intestines.
- Qualitative/ Quantitative detection of specific target using Taqman chemistry on Real Time PCR.

Targets Covered : RL1, IE1 & PP65 genes

Sample Source : Blood

Rubella-Q Real Time PCR Kit

- Rubella is a contagious viral infection that causes rashes, fever & sore throat; mostly affecting children & young adults
- If a pregnant woman becomes infected with rubella, it can lead to a miscarriage or cause severe birth defects in the developing fetus."
- Our kit enables detection of Rubella non-structural polyprotein p200 gene in clinical samples.

Targets Covered : polyprotein p200.

Sample Source : Nasopharyngeal, Oropharyngeal & Throat Swab

Commercial Name	Cat No.	Pack Size	Compatible Instruments
Sepsis-Q Real Time PCR Kit	G2M804026	25 T	Instruments with FAM, ROX, Cy5, HEX/VIC Channels including RAPICycler - 96, ABI Prism®7500 & Quantstudio, BioRad CFX96, Roche Lightcycler, Qiagen Rotor-Gene, etc.
Anti Microbial Resistance/AMR (MDR-Q Real Time PCR Kit)	G2M707521	50 T	
MCP-Q Comprehensive Real Time PCR Kit	G2M803821	25 T	
GCP-Q Comprehensive Real Time PCR Kit	G2M803621	25 T	
BK-Q Real Time PCR Kit	G2M705421	50 T	
H. Pylori-Q Real-Time PCR Kit	G2M706321	50 T	
EBV-Q Real Time PCR Kit	G2M705621	50 T	
Nipah-Q Real Time PCR Kit	G2M705921	50 T	
VZV-Q Real Time PCR Kit	G2M705821	50 T	
Human Parvovirus-Q Real Time PCR Kit	G2M706521	50 T	
C. Albicans-Q Real Time PCR Kit	G2M708021	50 T	
SS-Q Real Time PCR Kit	G2M801721	50 T	
Rota-Q Real Time PCR Kit	G2M801621	50 T	
EEC-Q Real Time PCR Kit	G2M801321	50 T	
CMV-Q Real Time PCR Kit*	G2M709521	50 T	
Rubella-Q Real Time PCR Kit*	G2M804023	50 T	

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