



**Proven shrimp diseases detection kits
is now within reach**

rapid test kits . PCR kits . qPCR kits

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Choose the right Speedy Assay ShrimpCheck solution to match your performance needs



Designed on industry-leading innovation, Speedy Assay *ShrimpCheck* detection kits portfolio can grow with your screening, monitoring, research and prevention needs on shrimp diseases.

From the simple reliability of shrimp diseases rapid test kits to the unprecedented sensitivity of shrimp diseases real-time PCR kits, *ShrimpCheck* lineups offer you more comprehensive, flexibility and performance.

ShrimpCheck Detection Kits Selection Guide

	Rapid Test Kits	PCR Kits	Real-time PCR Kits
Assay Time	Approx. 15 minutes	Approx. 3-4 hours ⁺	Approx. 2-3 hours ⁺
Detection Limit			
WSSV	2.0% (v/v)	10 copies DNA/reaction	<10 copies DNA/reaction
MBV	1.5% (v/v)	100 copies DNA/reaction	10 copies DNA/reaction
IMNV	0.05% (v/v)	100 copies RNA/reaction	<100 copies RNA/reaction
YHV	0.05% (v/v)	100 copies RNA/reaction	<100 copies RNA/reaction
EHP	Not available	10 copies DNA/reaction	<10 copies/reaction
AHPND/EMS	Not available	10 copies DNA/reaction	<10 copies/reaction
HPV	Not available	10 copies DNA/reaction	<10 copies/reaction
IHHNV	Not available	10 copies DNA/reaction	<10 copies/reaction
TSV	Not available	100 copies RNA/reaction	<100 copies RNA/reaction

⁺Time indicated including DNA extraction process using Speedy Assay Viral Nucleic Acid Extraction Kit

White Spot Syndrome Virus (WSSV)

White spot syndrome virus (WSSV) is a highly infectious viral pathogen that causes mass mortality in farmed penaeid shrimps worldwide. WSSV has been known as the most prevalent, widespread and lethal to most of the commercially cultivated penaeid shrimp species.

Clinical signs of infected shrimps

- White spots on carapace and last abdominal segment
- Body colour becomes pale
- Lethargic behaviour
- Reduction in food consumption
- Loose cuticle or shells

Mortality rate

Cumulative mortality of up to 100% within 3 -10 days after infection

Mode of transmission

Transmitted vertically by trans-ovum, consumption of infected tissue (e.g. cannibalism, predation, etc.), and by water-borne routes. Dead and moribund animals can be a source of disease transmission.

Infected shrimp types

Penaeus monodon, *Marsupenaeus japonicus*, *Litopenaeus vannamei* and *Fenneropenaeus indicus*

Ordering information

Rapid Test Kits		
RWSS01-020	ShrimpCheck White Spot Syndrome Virus (WSSV) Rapid Test Kit	20 tests/ kit
PCR Kits		
PWSS01-050	ShrimpCheck White Spot Syndrome Virus (WSSV) Nested PCR Kit	50 tests/ kit
PWSS01-100	ShrimpCheck White Spot Syndrome Virus (WSSV) Nested PCR Kit	100 tests/ kit
CPWSS01-050	ShrimpCheck White Spot Syndrome Virus (WSSV) Nested PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPWSS01-100	ShrimpCheck White Spot Syndrome Virus (WSSV) Nested PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QWSS01-050	ShrimpCheck White Spot Syndrome Virus (WSSV) Real-time PCR Kit	50 tests/ kit
QWSS01-100	ShrimpCheck White Spot Syndrome Virus (WSSV) Real-time PCR Kit	100 tests/ kit
CQWSS01-050	ShrimpCheck White Spot Syndrome Virus (WSSV) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQWSS01-100	ShrimpCheck White Spot Syndrome Virus (WSSV) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Early Mortality Syndrome (EMS)

The early mortality syndrome (EMS) is an emerging shrimp disease more technically known as acute hepatopancreatic necrosis disease (AHPND), caused by unique strain of *Vibrio parahaemolyticus*. The pathogenic bacteria colonize the shrimp gastrointestinal tract and produce a toxin that causes tissue destruction and dysfunction of the shrimp digestive organ (hepatopancrease).

Clinical signs of infected shrimps

- Erratic swimming or swimming near the bottom of the pond
- Reduced growth whitening of the hepatopancreas reduction in size of hepatopancreas
- Soft texture of the exoskeleton
- Dark spots or streaks on the hepatopancreas
- Hardening of hepatopancreas

Mortality rate

Mortality rate of up to 90% within 30 days

Infected shrimp types

L. vannamei

Mode of transmission

Transmitted by oral routes and cohabitation

Ordering information

PCR Kits		
PEMS01-050	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) PCR Kit	50 tests/ kit
PEMS01-100	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) PCR Kit	100 tests/ kit
CPEMS01-050	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPEMS01-100	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QEMS01-050	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) Real-time PCR Kit	50 tests/ kit
QEMS01-100	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) Real-time PCR Kit	100 tests/ kit
CQEMS01-050	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQEMS01-100	ShrimpCheck Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Enterocytozoon Hepatopenaei (EHP)

A microsporidian parasite, *Enterocytozoon hepatopenaei* (EHP) is an emerging pathogen for penaeid shrimp. EHP has been found in several shrimp farming countries in Asia including Vietnam, Thailand, Malaysia, Indonesia and China, and is reported to be associated with growth retardation in farmed shrimp.

Clinical signs of infected shrimps

- Discoloration in muscles due to spores
- Retarding growth of cultured shrimp

Mortality rate

Not causing mortality but serious growth retardation

Infected shrimp types

Penaeus monodon (Black tiger prawn), *Penaeus vannamei* (Pacific white shrimp)

Mode of transmission

Transmitted directly from shrimp to shrimp by the oral route

Ordering information

PCR Kits		
PEHP01-050	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) PCR Kit	50 tests/ kit
PEHP01-100	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) PCR Kit	100 tests/ kit
CPEHP01-050	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPEHP01-100	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QEHP01-050	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) Real-time PCR Kit	50 tests/ kit
QEHP01-100	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) Real-time PCR Kit	100 tests/ kit
CQEHP01-050	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQEHP01-100	ShrimpCheck <i>Enterocytozoon Hepatopenaei</i> (EHP) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Monodon Baculovirus (MBV)

Penaeid shrimps are susceptible to Monodon Baculovirus (MBV) at all stages of life, except eggs and nauplii. MBV has been associated with high mortalities (over 90%) in late post larvae and juvenile shrimp. Infected shrimp has a weak performance in growth and low survival rate of larvae. Although MBV has not been as lethal as white spot syndrome virus, the infection has also resulted in economic loss.

Clinical signs of infected shrimps

- Lethargy
- Dark colored with heavy surface fouling
- Abrupt reduced feeding

Mortality rate

Over 90% mortality in late post larvae and juvenile shrimp

Infected shrimp types

Penaeid shrimp

Mode of transmission

Transmitted by ingestion of infected tissue (cannibalism), feces, occlusion bodies, or virus-contaminated detritus or water

Ordering information

Rapid Test Kits		
RMBV01-020	ShrimpCheck Monodon Baculovirus (MBV) Rapid Test Kit	20 tests/ kit
PCR Kits		
PMBV01-050	ShrimpCheck Monodon Baculovirus (MBV) PCR Kit	50 tests/ kit
PMBV01-100	ShrimpCheck Monodon Baculovirus (MBV) PCR Kit	100 tests/ kit
CPMBV01-050	ShrimpCheck Monodon Baculovirus (MBV) PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPMBV01-100	ShrimpCheck Monodon Baculovirus (MBV) PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QMBV01-050	ShrimpCheck Monodon Baculovirus (MBV) Real-time PCR Kit	50 tests/ kit
QMBV01-100	ShrimpCheck Monodon Baculovirus (MBV) Real-time PCR Kit	100 tests/ kit
CQMBV01-050	ShrimpCheck Monodon Baculovirus (MBV) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQMBV01-100	ShrimpCheck Monodon Baculovirus (MBV) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Infectious Myonecrosis Virus (IMNV)

Infectious myonecrosis (IMN) is a viral disease of penaeid shrimp caused by myonecrosis virus (IMNV). The genome of IMNV consists of a single, double-stranded RNA molecule of 7560 bp. The principal host species in which IMNV is known to cause significant disease outbreaks and mortalities is *Penaeus vannamei*.

Clinical signs of infected shrimps

- Acute phase: white necrotic areas in striated (skeletal) muscles, especially in the distal abdominal segments and tail fan, which can become necrotic and reddened similar to the colour of cooked shrimp
- Severely affected shrimp become moribund, and mortalities can be high immediately following a “stress” event and continue for several days
- Lethargy
- Loss of balance
- Swimming on water surface during day time

Mortality rate

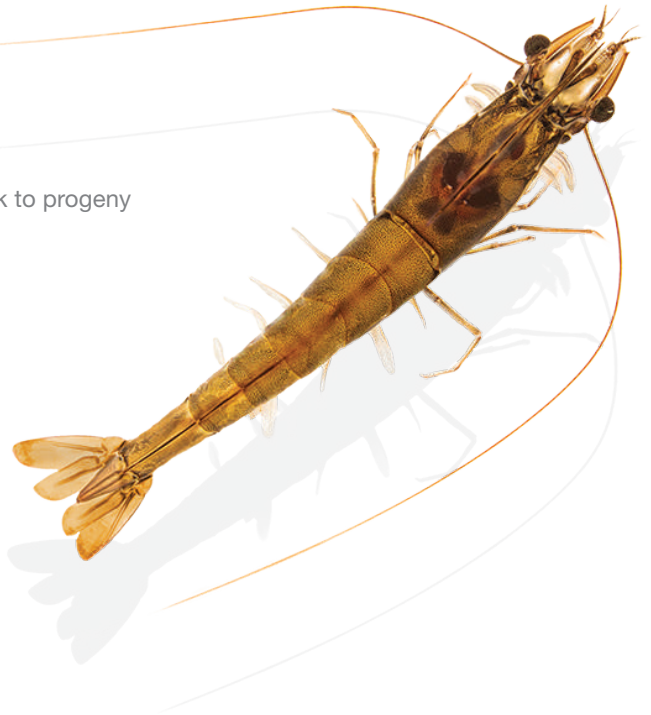
40% to 70% of affected populations

Infected shrimp types

Penaeid shrimp

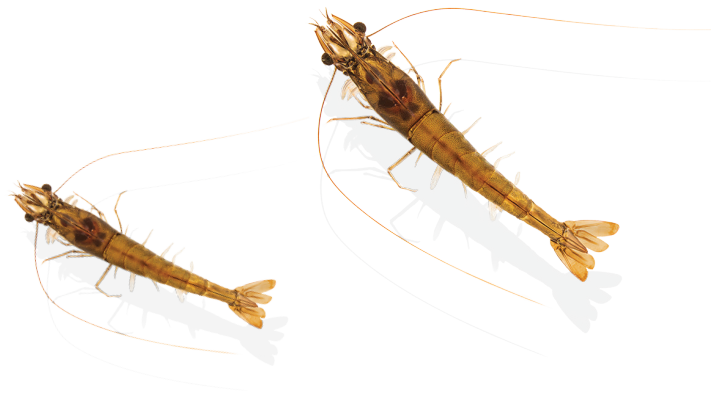
Mode of transmission

Transmitted via water and from broodstock to progeny



Ordering information

Rapid Test Kits		
RIMN01-020	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Rapid Test Kit	20 tests/ kit
PCR Kits		
PIMN01-050	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Nested RT-PCR Kit	50 tests/ kit
PIMN01-100	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Nested RT-PCR Kit	100 tests/ kit
CPIMN01-050	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Nested RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPIMN01-100	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Nested RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QIMN01-050	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Real-time RT-PCR Kit	50 tests/ kit
QIMN01-100	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Real-time RT-PCR Kit	100 tests/kit
CQIMN01-050	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQIMN01-100	ShrimpCheck Infectious Myonecrosis Virus (IMNV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit



Yellow Head Virus (YHV)

Yellow Head Disease (YHD) is caused by infection of Yellow Head Virus (YHV) on shrimp. It was first reported in Thailand in 1990 and has since been reported in Asia, East Africa, Australia and South America. YHV is a positive-sense single-stranded RNA virus related to coronaviruses and arteriviruses. YHD outbreaks have been reported in black tiger prawn (*P. monodon*) and white Pacific shrimp (*P. vannamei*).

Clinical signs of infected shrimps

- Yellow discoloration of its cephalothorax
- Exceptionally high feed consumption at initial stage followed by abrupt reduced feeding
- Moribund shrimps congregate near the surface of their pond before dying

Mortality rate

Up to 100% mortality within 3-5 days of the first appearance of clinical signs

Infected shrimp types

P. monodon (Black tiger prawn), *P. vannamei* (Pacific white shrimp)

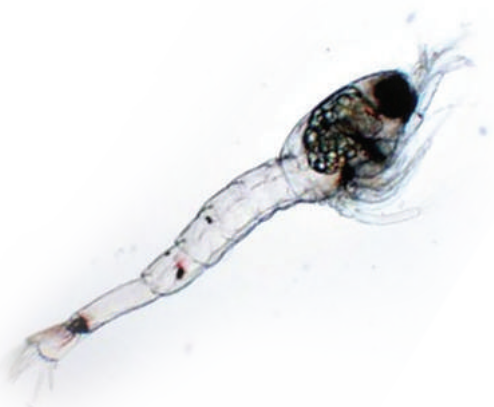
Mode of transmission

Transmitted by injection, ingestion of infected tissue, immersion in membrane filtered tissue extracts, or by co-habitation with infected shrimp; injection of extracts of paste prawns collected from infected ponds; by surface contamination or infection of tissue surrounding the fertilised egg.



Ordering information

Rapid Test Kits		
RYHV01-020	ShrimpCheck Yellow Head Virus (YHV) Rapid Test Kit	20 tests/ kit
Real-time PCR Kits		
PYHV01-050	ShrimpCheck Yellow Head Virus (YHV) RT-PCR Kit	50 tests/ kit
PYHV01-100	ShrimpCheck Yellow Head Virus (YHV) RT-PCR Kit	100 tests/ kit
CPYHV01-050	ShrimpCheck Yellow Head Virus (YHV) RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPYHV01-100	ShrimpCheck Yellow Head Virus (YHV) RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QYHV01-050	ShrimpCheck Yellow Head Virus (YHV) Real-time RT-PCR Kit	50 tests/ kit
QYHV01-100	ShrimpCheck Yellow Head Virus (YHV) Real-time RT-PCR Kit	100 tests/ kit
CQYHV01-050	ShrimpCheck Yellow Head Virus (YHV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQYHV01-100	ShrimpCheck Yellow Head Virus (YHV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit



Hepatopancreatic Parvovirus (HPV)

Hepatopancreatic parvovirus (HPV) is one of the major shrimp parvovirus which is known to cause slow growth in penaeid shrimps. It was first reported in *Penaeus* (Fenneropenaeus) *chinensis* from Korea, *Penaeus merguensis* from Singapore, *Penaeus semisulcatus* from Kuwait and *P. monodon* from the Philippines.

Clinical signs of infected shrimps

- Affects mid-juvenile stages with signs of necrosis and atrophy of the hepatopancreas
- Poor growth rates, anorexia and reduced preening with a concurrent increase in surface and gill fouling by epicommissal organisms

Mortality rate

50%-100% mortality in post-larvae stages

Infected shrimp types

Penaeid shrimp (early postlarvae, juveniles and adults)

Mode of transmission

Transmitted via contaminated water, eggs may be easily contaminated during spawning when coming into contact with water and fecal material from infected females

Ordering information

PCR Kits		
PHPV01-050	ShrimpCheck Hepatopancreatic Parvovirus (HPV) PCR Kit	50 tests/ kit
PHPV01-100	ShrimpCheck Hepatopancreatic Parvovirus (HPV) PCR Kit	100 tests/ kit
CPHPV01-050	ShrimpCheck Hepatopancreatic Parvovirus (HPV) PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPHPV01-100	ShrimpCheck Hepatopancreatic Parvovirus (HPV) PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QHPV01-050	ShrimpCheck Hepatopancreatic Parvovirus (HPV) Real-time PCR Kit	50 tests/ kit
QHPV01-100	ShrimpCheck Hepatopancreatic Parvovirus (HPV) Real-time PCR Kit	100 tests/ kit
CQHPV01-050	ShrimpCheck Hepatopancreatic Parvovirus (HPV) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQHPV01-100	ShrimpCheck Hepatopancreatic Parvovirus (HPV) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Infectious Haemopoietic and Hypodermal Necrosis Virus (IHHNV)

Infectious Haemopoietic and Hypodermal Necrosis Virus (IHHNV) is a single stranded DNA virus with genome size of ~4.1kbps. At least three distinct genotypes of IHHNV have been identified with Type 1 and 2 genotypes are infectious to *P. vannamei* and *P. monodon*.

Clinical signs of infected shrimps

- Reduced food consumption
- Cannibalism
- Increased mortality

Mortality rate

Acute epizootics and mass mortality (> 90%) in all stages

Infected shrimp types

P. monodon (Black tiger prawn), *P. vannamei* (Pacific white shrimp), and *P. stylirostris* (Pacific blue shrimp)

Mode of transmission

Transmitted via infected eggs, cannibalism or by contaminated water

Ordering information

PCR Kits		
PIHH01-050	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) PCR Kit	50 tests/ kit
PIHH01-100	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) PCR Kit	100 tests/ kit
CPIHH01-050	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) PCR Kit with Nucleic Acid Extraction Kit	50 test/ kit
CPIHH01-100	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) PCR Kit with Nucleic Acid Extraction Kit	100 test/ kit
Real-time PCR Kits		
QIHH01-050	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) Real-time PCR Kit	50 tests/ kit
QIHH01-100	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) Real-time PCR Kit	100 tests/ kit
CQIHH01-050	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) Real-time PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQIHH01-100	ShrimpCheck Infectious Hypodermal & Hematopoietic Necrosis Virus (IHHNV) Real-time PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Taura Syndrome Virus (TSV)

Taura syndrome (TS) is a virus disease of penaeid shrimp caused by infection with Taura syndrome virus (TSV). The principal host species in which TSV can cause significant disease outbreaks and mortalities are *Penaeus vannamei* and *P. stylirostris*.

Clinical signs of infected shrimps

- Reddening of the tail fan and visible necrosis of the epithelial tissue

Mortality rate

Mortalities range from 40 to >90%

Infected shrimp types

Penaeus vannamei (Pacific white shrimp) and *P. stylirostris* (Pacific blue shrimp)

Mode of transmission

Horizontal transmission by cannibalism or by contaminated water.

Ordering information

PCR Kits		
PTSV01-050	ShrimpCheck Taura Syndrome Virus (TSV) RT-PCR Kit	50 tests/ kit
PTSV01-100	ShrimpCheck Taura Syndrome Virus (TSV) RT-PCR Kit	100 tests/ kit
CPTSV01-050	ShrimpCheck Taura Syndrome Virus (TSV) RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CPTSV01-100	ShrimpCheck Taura Syndrome Virus (TSV) RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit
Real-time PCR Kits		
QTSV01-050	ShrimpCheck Taura Syndrome Virus (TSV) Real-time RT-PCR Kit	50 tests/ kit
QTSV01-100	ShrimpCheck Taura Syndrome Virus (TSV) Real-time RT-PCR Kit	100 tests/ kit
CQTSV01-050	ShrimpCheck Taura Syndrome Virus (TSV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	50 tests/ kit
CQTSV01-100	ShrimpCheck Taura Syndrome Virus (TSV) Real-time RT-PCR Kit with Nucleic Acid Extraction Kit	100 tests/ kit

Note





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