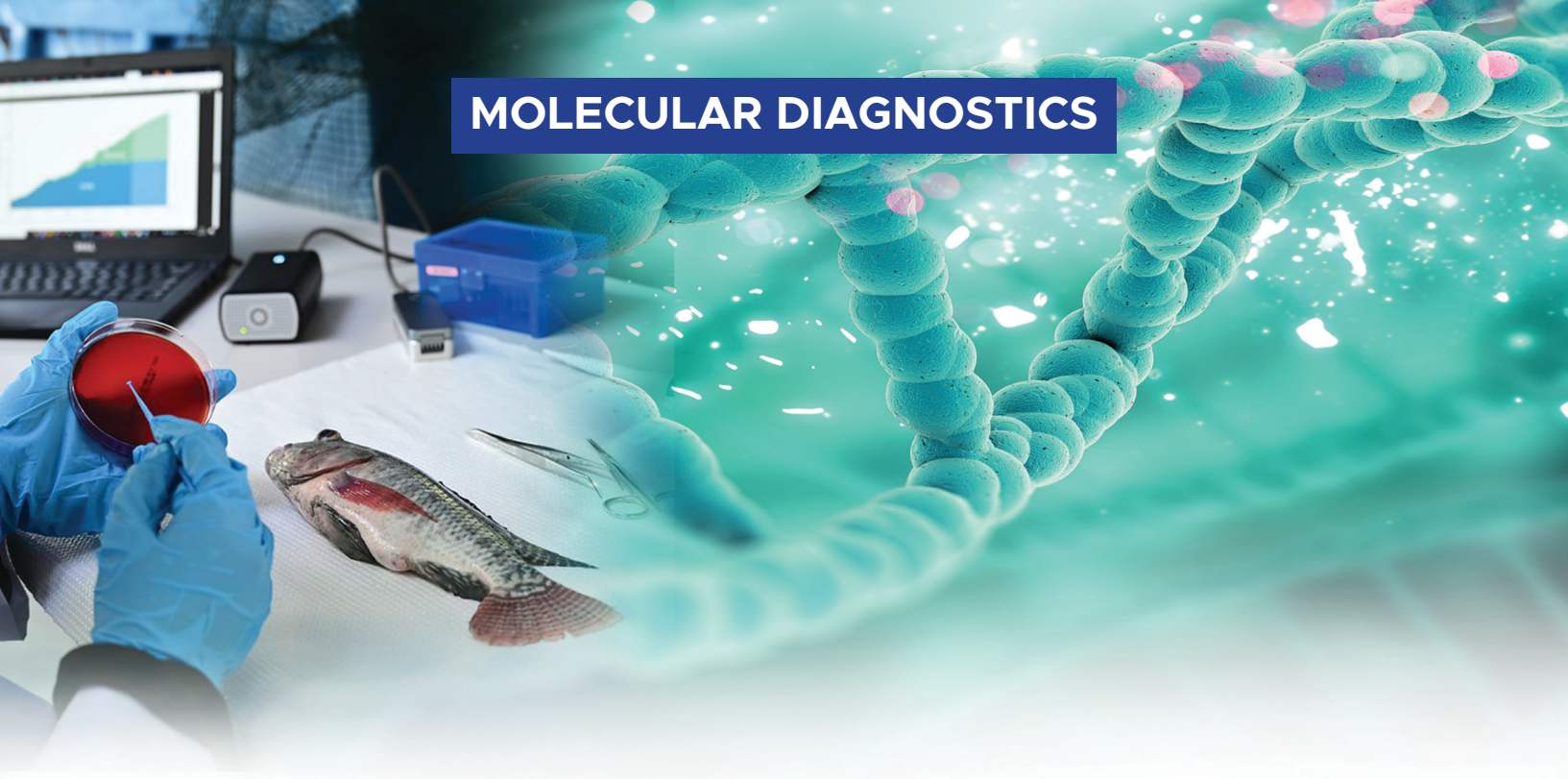


MOLECULAR DIAGNOSTICS



aQuaNat Molecular Diagnostic platform offers Real Time PCR and RT-PCR Kits for the differential diagnosis of various diseases in Shrimp. Kit is supported with endogenous internal control (IC) which serves as the extraction control and helps to exclude the unreliable result. High sensitivity and specificity are established by opting the specific conserved target sequence of various viruses. With the PCR reaction mix provided, the amplification of template can be quantitatively monitored by the increasing fluorescence signal detected by a Real Time PCR instrument.

PRODUCTS IN CATEGORY	PRODUCT CODE
WHITE SPOT SYNDROME VIRUS (WSSV)	SGA001
SHRIMP HEMOCYTE IRIDESCENT VIRUS (SHIV)	SGA002
ENTEROCYTOZON HEPATOPENAEI (EHP)	SGA003
MONODON BACULOVIRUS (MBV)	SGA004
INFECTIOUS MYONECROSIS VIRUS (IMNV)	SGA005
YELLOW HEAD VIRUS (YHV)	SGA006
HEPATOPANCREATIC PARVOVIRUS (HPV)	SGA007
INFECTIOUS HYPODERMAL AND HEMATOPOIETIC NECROSIS VIRUS (IHHNV)	SGA008
TAURA SYNDROME VIRUS (TSV)	SGA009
PENAEUS VANNAMEI NODAVIRUS (PvNV)	SGA010
NECROTIZING HEPATOPANCREATITIS (NHP)	SGA011
COVERT MORTALITY NODAVIRUS (CMNV)	SGA012
ACUTE HEPATOPANCREATIC NECROSIS DISEASE (AHPND)	SGA013
LAEM-SINGH VIRUS (LSNV)	SGA014
GILL-ASSOCIATED VIRUS (GAV)	SGA015
LUMINOUS VIBRIOSIS - <i>V. harveyi</i>	SGA016
MOURILYAN VIRUS (MoV)	SGA017
SPAWNER-ISOLATED MORTALITY VIRUS (SMV)	SGA018
CRAYFISH PLAGUE, APHANOMYCES ASTACI (CP)	SGA019
VIBRIO PARAHAEMOLYTICUS (<i>Vp</i>)	SGA020
MACROBRACHIUM ROSENBERGII NODAVIRUS (MrNV)	SGA021
BACULOVIRUS PENAEI (BP)	SGA022
SPIROPLASMA PENAEI (SP)	SGA023



WHITE SPOT SYNDROME VIRUS (WSSV)

Background

aQuaNat White Spot Syndrome Virus (WSSV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. White spot disease (WSD) is one of the viral diseases for marine shrimp culture, characterized by high and rapid mortality accompanied by gross signs in moribund shrimp of white, initially circular, inclusions or spots in the cuticle. WSSV has been known as the most prevalent, widespread and lethal to most of the commercially cultivated penaeid shrimp species.

REF. NO: SGA001

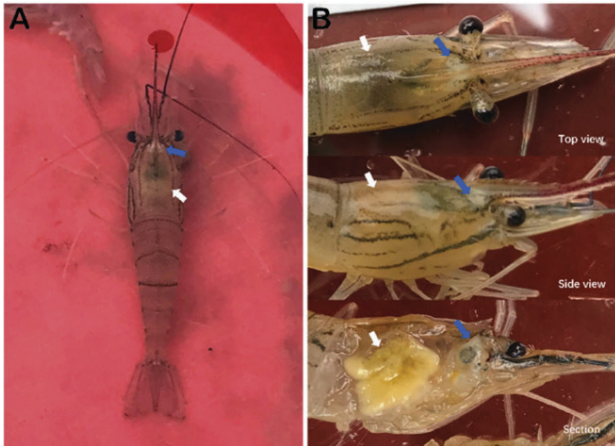
Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	VP664 gene of WSSV
Specificity	White Spot Syndrome Virus (WSSV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (WSSV), HEX/VIC(IC) channels
Storage	Room temperature

SHRIMP HEMOCYTE IRIDESCENT VIRUS (SHIV)

Background

aQuaNat Shrimp hemocyte iridescent virus (SHIV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. A newly discovered iridescent virus that causes severe disease and high mortality in farmed Pacific white shrimp (*Litopenaeus vannamei*) in Zhejiang, China, has been verified and provisionally named as shrimp hemocyte iridescent virus (SHIV). The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample



Product Specification

REF. NO: SGA002

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	16S rRNA gene of SHIV
Specificity	Shrimp hemocyte iridescent virus (SHIV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (WSSV), HEX/VIC(IC) channels
Storage	Room temperature



ENTEROCYTOZOON HEPATOPENAEI (EHP)

Background

aQuaNat Enterocytozoon hepatopenaei (EHP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. EHP causes lesions in the hepatopancreas (HP) tubule epithelial cells, and its main clinical signs are growth retardation that leads to increased size variability. EHP has been reported to be associated with growth retardation and white faeces syndrome. The Endogenous Control (IC) act as an extraction control for the assay, which helps to exclude unreliable result.

REF. NO: SGA003

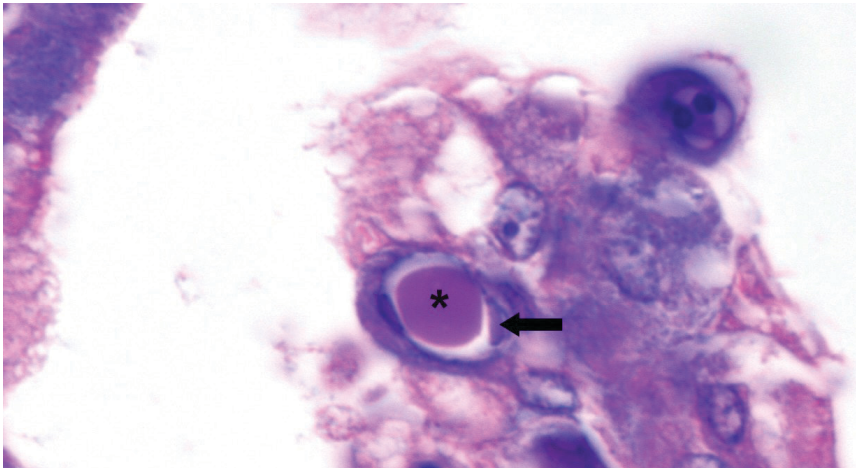
Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	18S rRNA gene of EHP
Specificity	Enterocytozoon hepatopenaei (EHP)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (EHP), HEX/VIC(IC) channels
Storage	Room temperature

MONODON BACULOVIRUS (MBV)

Background

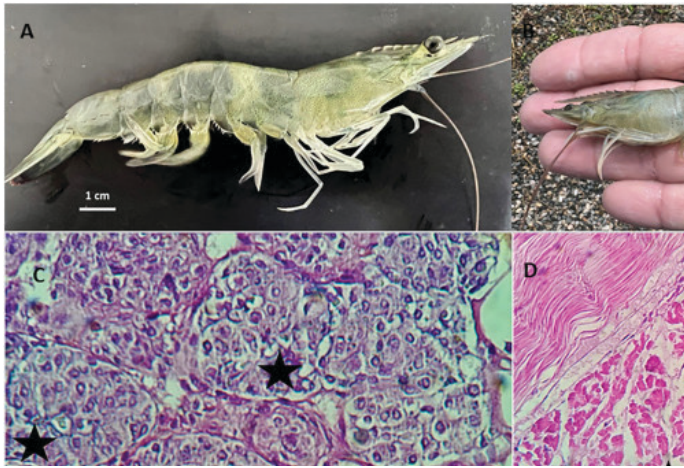
aQuaNat Mondon Baculovirus (MBV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. MBV is one of the widely reported and well described viral pathogens of shrimp. MBV had been implicated as the causative agent of the first major crisis caused by a disease in the history of penaeid shrimp culture. The PCR detection system includes an endogenous internal control.



Product Specification

REF. NO: SGA004

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	ORF1ab gene of MBV
Specificity	Mondon Baculovirus (MBV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (MBV), HEX/VIC(IC) channels
Storage	Room temperature



INFECTIOUS MYONECROSIS VIRUS (IMNV)

Background

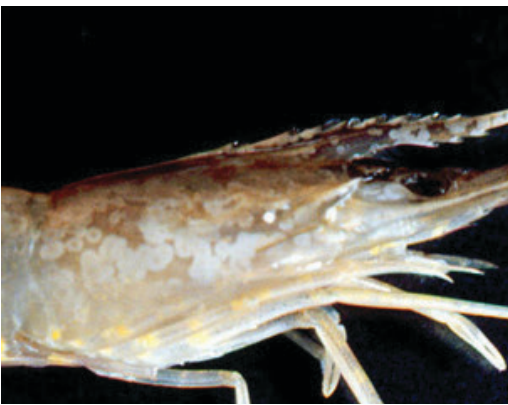
aQuaNat Infectious myonecrosis virus (IMNV) Real Time RT PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Infectious myonecrosis (IMN) is an emerging viral disease in shrimp aquaculture industry. caused by Infectious myonecrosis virus (IMNV). This kit is the direct detection of Penaeid shrimp infectious myonecrosis virus on the basis of a genetic database, so it can diagnose very fast and accurately. The Endogenous Control (IC) act as an extraction control for the assay, which helps to exclude unreliable result.

REF. NO: SGA005

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	ORF1 gene of IMNV
Specificity	Infectious myonecrosis virus (IMNV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (MBV), HEX/VIC(IC) channels
Storage	Room temperature

YELLOW HEAD VIRUS (YHV)



Background

aQuaNat Yellow Head virus (YHV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Yellow Head Virus (YHV) is an RNA virus, infectious to Shrimp. Yellow head disease (YHD) of Penaeid shrimp is characterised by high and rapid mortality, typically accompanied by the gross signs of yellowing of the cephalothorax and general bleaching of body colour. As no preventive measures are available, accurate and timely diagnosis like RT- PCR is the only way for effective management. The Endogenous Control (IC) supported in the kit act as a Control system to ensure proper extraction of Nucleic acid from the sample and there by helps to exclude unreliable results.

Product Specification

REF. NO: SGA006

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	PP 1ab gene of YHV
Specificity	Yellow Head virus 1& 2 (YHV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (YHV), HEX/VIC(IC) channels
Storage	Room temperature

HEPATOPANCREATIC PARVO-LIKE VIRUS (HPV)

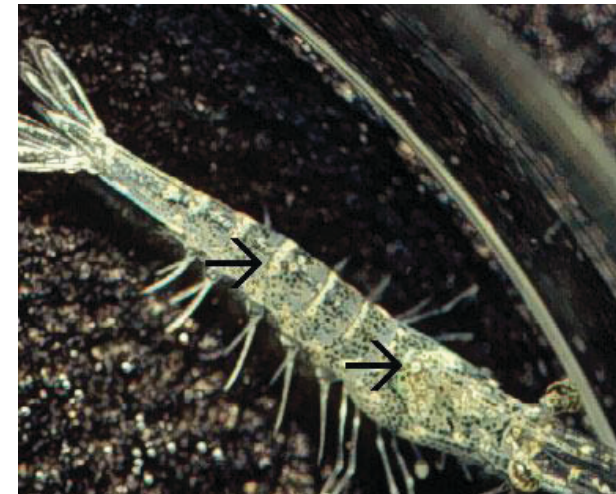
Background

aQuaNat Hepatopancreatic Parvo-like Virus (HPV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Hepatopancreatic parvovirus (HPV) is one of the major shrimp parvoviruses which is known to cause slow growth in penaeid shrimps. HPV has been found in wild and cultured penaeid shrimps throughout the world and there is high genetic variation among the different geographic isolates/host species. The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample

REF. NO: SGA007

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	capsid protein gene of HPV
Specificity	Hepatopancreatic Parvo-like Virus
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (HPV), HEX/VIC(IC) channels
Storage	Room temperature



INFECTIOUS HYPODERMAL AND HEMATOPOIETIC NECROSIS VIRUS (IHHNV)

Background

aQuaNat Infectious hypodermal and hematopoietic necrosis virus (IHHNV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. The Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV) has been listed as a notifiable crustacean pathogen by the World Organization for Animal Health (OIE) since 1995. Kit is supported with endogenous internal control (IC) which serves as the extraction control and helps to exclude the unreliable result.

Product Specification

REF. NO: SGA008

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	NS2 gene of IHHNV
Specificity	Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV))
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (IHHNV), HEX/VIC(IC) channels
Storage	Room temperature



TAURA SYNDROME VIRUS (TSV)

Background

aQuaNat Taura syndrome virus (TSV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Taura syndrome (TS) is one of the more devastating diseases affecting the shrimp farming industry worldwide. Animals with this disease may show one or more signs like lethargy, cessation of feeding etc., but the pathogen may still be present in the absence of any signs. The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample.

REF. NO: SGA009

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	ORF1 gene of TSV
Specificity	Taura syndrome virus (TSV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (TSV), HEX/VIC(IC) channels
Storage	Room temperature



PENAEUS VANNAMEI NODAVIRUS (PvNV)

Background

aQuaNat Penaeus Vannamei Nodavirus (PvNV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. PvNV is a nodavirus (tentatively named PvNV, Penaeus vannamei nodavirus) that causes muscle necrosis in *P. vannamei*. Exhibited clinical signs, white, opaque lesions in the tails and histopathology similar to those of shrimps infected by infectious myonecrosis virus (IMNV) and hence specific detection is important.

REF. NO: SGA010

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	capsid protein gene of PvNV
Specificity	Penaeus Vannamei Nodavirus (PvNV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (PvNV), HEX/VIC(IC) channels
Storage	Room temperature



NECROTIZING HEPATOPANCREATITIS (NHP)

Background

aQuaNat Necrotizing hepatopancreatitis (NHP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. NHP infection is potentially treatable if it is detected early and medicated food is applied before the shrimp cease feeding due to lethargy and anorexia – symptoms of the disease. It is currently being considered for listing by the World Organization for Animal Health as a reportable disease, which points to the urgent need for faster and more cost-effective methods of detection. Kit is supported with endogenous internal control (IC) which serves as the extraction control and helps to exclude the unreliable result.

REF. NO: SGA011

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	16S rRNA gene of NHP
Specificity	Necrotizing hepatopancreatitis (NHP)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (NHP), HEX/VIC(IC) channels
Storage	Room temperature



COVERT MORTALITY NODAVIRUS (CMNV)

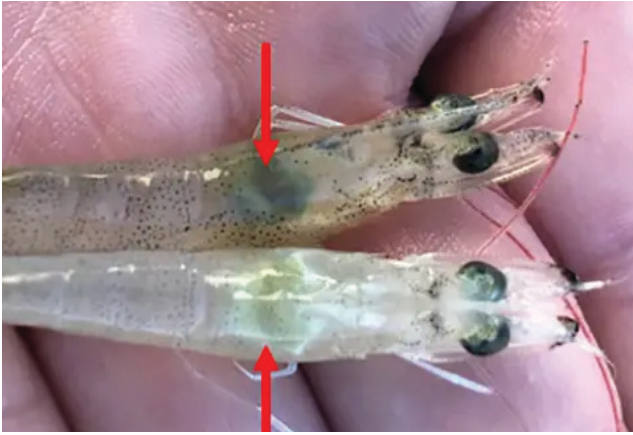
Background

aQuaNat Covert Mortality Nodavirus (CMNV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Covert mortality nodavirus (CMNV), a new emerging shrimp virus, was capable of crossing species barriers to infect fish. A major disease that occurred in the shrimp farming industries in China before 2009 was generally named covert mortality nodavirus (CMNV) due to that most of the moribund shrimp could hide in deep water rather than swim to the surface or in shallow water, as did shrimp suffering from white spot disease. Diagnostic Performance of the assay is enhanced by using multiple target genes, thus validates the disease condition. The PCR analysis can be quantitatively monitored by the increasing fluorescence signal detected by a Real-Time PCR instrument.

REF. NO: SGA012

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	RdRP gene of CMNV
Specificity	Covert mortality nodavirus (CMNV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (CMNV), HEX/VIC(IC) channels
Storage	Room temperature



ACUTE HEPATOPANCREATIC NECROSIS DISEASE (AHPND)

Background

aQuaNat Acute hepatopancreatic necrosis disease (AHPND) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Acute Hepatopancreatic Necrosis Disease (AHPND) progressively spread as an epidemic, devastating shrimp production across much of the shrimp farming. The mortality rate during the outbreak is more than 80%, leading to a decrease in the global shrimp supply and hence its PCR detection is necessary. The Endogenous Control (IC) supported in the kit act as a Control system to ensure proper extraction of Nucleic acid from the sample and there by helps to exclude unreliable results.

REF. NO: SGA013

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	pirA gene of AHPND
Specificity	AHPND
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (AHPND), HEX/VIC(IC) channels
Storage	Room temperature

LAEM-SINGH VIRUS (LSNV)

Background



aQuaNat Leam-Sing Virus (LSNV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Laem Singh virus (LSNV) was discovered in 2006 and proposed as a necessary but insufficient cause of retarded growth in the giant tiger shrimp *Penaeus monodon*. Its closest relatives were plant viruses including an unassigned Sobemovirus and viruses in the family Luteoviridae. The virus is a positive-sense single-stranded RNA virus that was recently identified in *Penaeus monodon*. Laem-Singh virus (LSNV) was proposed as part of Monodon Slow Growth Syndrome (MSGs) that cause severe economic losses for shrimp farmers. The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample

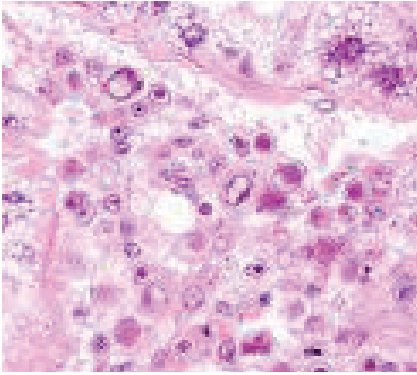
REF. NO: SGA014

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	RdRP gene of LSNV
Specificity	LEAM-SING VIRUS (LSNV) 1
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (LSNV), HEX/VIC(IC) channels
Storage	Room temperature

GILL-ASSOCIATED VIRUS (GAV)

Background



aQuaNat Gill-Associated Virus (GAV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. GAV is closely related to YHV, but they have been shown to come from two different viral populations. GAV affects Australian prawns while YHV occurs in Asian prawn stocks. The causative agent is gill-associated virus (GAV), genotype 2 of six distinguished genotypes in the yellowhead complex of viruses. High sensitivity and specificity are established by opting the specific conserved target sequence of various viruses. With the PCR reaction mix provided, the amplification of template can be quantitatively monitored by the increasing fluorescence signal detected by a real-time PCR instrument.

REF. NO: SGA015

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	Caspid protein gene of GAV
Specificity	Gill-associated virus (GAV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (GAV), HEX/VIC(IC) channels
Storage	Room temperature



LUMINOUS VIBRIOSIS - V. harveyi

Background

aQuaNat Luminous Vibriosis - V. harveyi Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Luminous disease primarily caused by Vibrio harveyi bacteria still becomes an obstacle in penaeid shrimp farming, especially in shrimp hatchery. V. harveyi has been linked with disease in several warmwater fish and invertebrates. The Endogenous Control (IC) act as an extraction control for the assay, which helps to exclude unreliable result.

Product Specification

REF. NO: SGA016

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	16SrRNA gene of V.harveyi
Specificity	V.harveyi 1
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (V.harveyi), HEX/VIC(IC) channels
Storage	Room temperature



MOURILYAN VIRUS (MoV)

Background

aQuaNat Mourilyan Virus (MoV) Real Time RT-PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. It is a crustacean bunya-like virus that infects penaeid prawns. Is considered to be of some economic importance due to its association with disease and mortalities in *P. monodon* and *P. japonicus*. Recent research results indicate that it may associate with the gut-and-nerve syndrome. The PCR detection system includes an endogenous internal control.

Product Specification

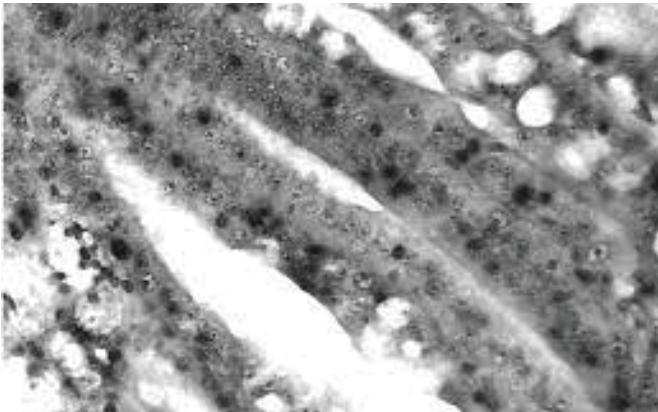
REF. NO: SGA017

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	G2 virion gene of MoV
Specificity	Mourilyan virus (MoV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (MoV), HEX/VIC(IC) channels
Storage	Room temperature

SPAWNER-ISOLATED MORTALITY VIRUS (SMV)

Background

aQuaNat Spawner-Isolated Mortality Virus (SMV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Spawner-isolated mortality virus (SMV) has been associated with mortalities in brood stock of *Penaeus monodon* and with mid-crop mortality syndrome on grow-out farms. The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample.



Product Specification

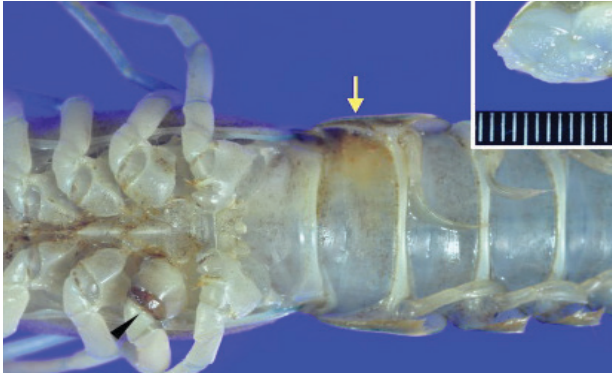
REF. NO: SGA018

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	18sRrna gene of SMV
Specificity	Spawner-Isolated Mortality Virus (SMV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (SMV), HEX/VIC(IC) channels
Storage	Room temperature

CRAYFISH PLAGUE, APHANOMYCES ASTACI (CP)

Background

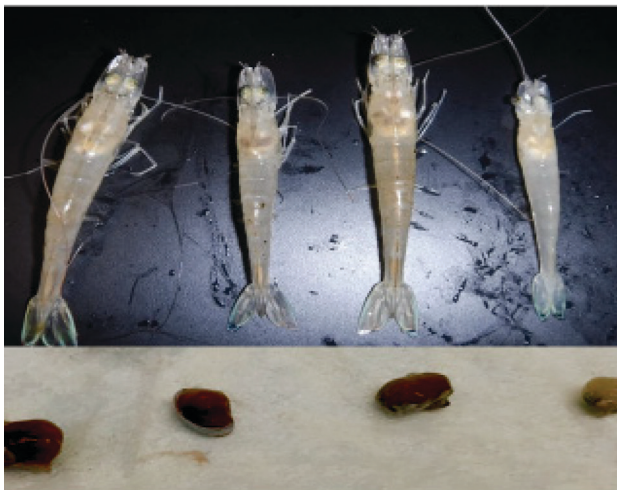
aQuaNat Crayfish Plague, *Aphanomyces astaci* (CP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. Crayfish plague (*Aphanomyces astaci*) is a water mold that infects crayfish, most notably the European *Astacus* which dies within a few weeks of being infected. The first indication of infection may be mortality and in the later stages, the muscles of the tail may appear whitened, or brownish-red where blood cells have encapsulated the hyphae.



REF. NO: SGA019

Product Specification

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	18sRrna gene of <i>Aphanomyces astaci</i>
Specificity	<i>Aphanomyces astaci</i>
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (CP), HEX/VIC(IC) channels
Storage	Room temperature



VIBRIO PARAHAEMOLYTICUS(Vp)

Background

aQuaNat *Vibrio parahaemolyticus* (VP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. *Vibrio parahaemolyticus*, the leading foodborne pathogen all over the world, is frequently isolated from a variety of seafood including shrimp. Its salinity and fear of acid, in 3–5% salt water can multiply rapidly, but in the pH below 6 acidic conditions is poor growth [3,4]. Acute gastroenteritis brought on by a *V. parahaemolyticus* infection might present as diarrhea, headache, vomiting, nausea, and abdominal cramps. The PCR detection system includes an endogenous internal control.

Product Specification

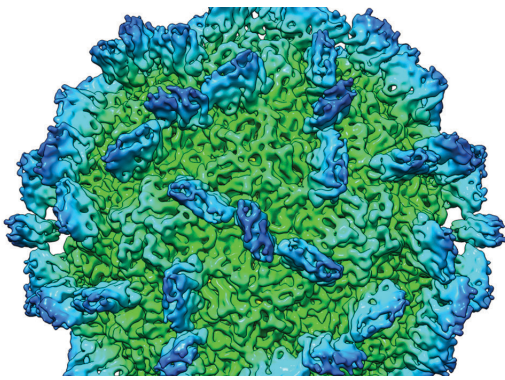
REF. NO: SGA020

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	ToxR gene of VP
Specificity	<i>Vibrio parahaemolyticus</i> (VP)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (EHP), HEX/VIC(IC) channels
Storage	Room temperature

MACROBRACHIUM ROSENBERGII NODAVIRUS (MrNV)

Background

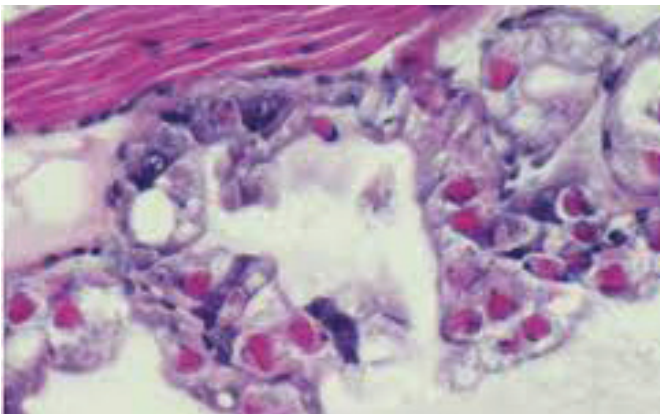
aQuaNat Macrobrachium rosenbergii nodavirus (MrNV) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. White tail disease (WTD) or white muscle disease (WMD) is defined as a viral infection caused by Macrobrachium rosenbergii nodavirus (MrNV) and its associate extra small virus (XSV). Muscle necrosis in shrimp often results in the appearance of opaque white lesions in the tail muscle in response to environmental factors such as low dissolved oxygen, sudden changes in temperature or salinity, or other stress. The Endogenous Control (IC) supported in the kit act as a Control system to ensure proper extraction of Nucleic acid from the sample and there by helps to exclude unreliable results.



Product Specification

REF. NO: SGA021

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	Capsid protein gene of MrNV
Specificity	Macrobrachium rosenbergii nodavirus (MrNV)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (MrNV), HEX/VIC(IC) channels
Storage	Room temperature



BACULOVIRUS PENAEI (BP)

Background

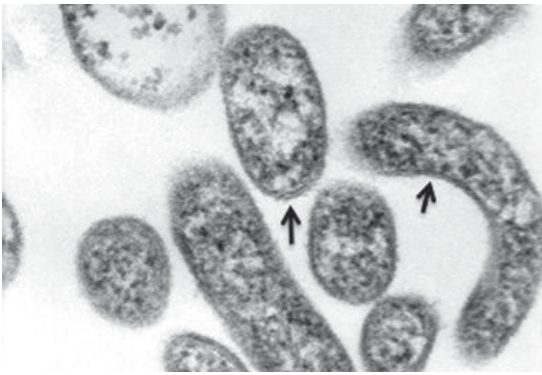
aQuaNat Baculovirus Penaei (BP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. BP infects cells of the hepatopancreatic and midgut epithelium. The Baculoviridae is a family of occluded DNA viruses pathogenic for arthropods belonging predominantly to the insect order Lepidoptera. Kit is supported with endogenous internal control (IC) which serves as the extraction control and helps to exclude the unreliable result.

Product Specification

REF. NO: SGA022

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	18sRrna gene of Baculovirus Penaei (BP)
Specificity	Baculovirus Penaei (BP)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (BP), HEX/VIC(IC) channels
Storage	Room temperature

SPIROPLASMA PENAEI (SP)



Background

aQuaNat Spiroplasma (SP) Real Time PCR Test Kit is designed for the quantitative detection of nucleic acid from tissue samples of shrimp. The large genus Spiroplasma is a group of wall-less eubacteria displaying a helical cell morphology. Spiroplasmas are motile, even though they lack flagella. These bacteria have historically been associated with plants and arthropods, primarily insects and ticks. The PCR detection system includes an endogenous internal control and the signal obtained from the endogenous control primer and probe set will vary according to the amount of biological material present in a given sample.

Product Specification

REF. NO: SGA022

Specimen Type	Tissue samples of shrimp
Packing Configuration	10T Pack (Each Pack contains 15 Vials: 10 Test Vials, 2 PC+ 2 NC & 1 Reconstitution buffer)
Target gene	Caspid protein gene of Spiroplasma
Specificity	Spiroplasma (SP)
Sensitivity	95 % confidence.
Metrological Traceability	Tissue samples including flesh and gills of shrimps
Instrument Compatibility	Compatible with Applied Biosystems (ABI) 7500, BioRad CFX96, QIAGEN Rotor Gene Q and other PCR instruments with FAM (SP), HEX/VIC(IC) channels
Storage	Room temperature

MOLECULAR EXTRACTION PLATFORMS

Xygene provides platforms to isolate and purify high-quality DNA and RNA from Whole Blood, Serum, Plasma, Sputum, Urine, Tissue, Saliva, CSF, Cell Culture fluid, Cell scrapings, Faeces & PEFBT etc. Spin Column and Silica Coated Magnetic beads-based kits are offered in this area. Well optimized formulations for each category of specimen ensures a high-quality nucleic acid. The quality of the extracted DNA/RNA are important steps in experimental workflows since the quality of nucleic acids can affect the performance in downstream reactions.

MAGNETIC BEAD BASED EXTRACTION KIT

Background

Xygene Magnetic Bead based Extraction Kit is established on Magnetic particle technology. Nucleic acids are isolated from the lysate through the binding to magnetic beads and which further are separated using a magnet.



Product Specification

Test type	Professional use only
Specimen type	Whole Blood, Serum, Plasma, Sputum, Urine, Tissue, Saliva, CSF, Cell Culture fluid, Cell scrapings, Faeces & PEFBT
Packing Configuration	20T Pack
Storage condition	Shipped & Stored at RT

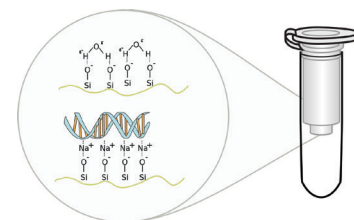
Product Details

Product Name	Product Code
Nucleic Acid Extraction Kit - Magnetic Based Specimen : Urine, Saliva, Cell Culture fluid, Swabs, CSF, Cell Scrapings	SGXM001
Nucleic Acid Extraction Kit - Magnetic Based Specimen : WB, Serum & Plasma	SGXM002
Nucleic Acid Extraction Kit - Magnetic Based Specimen : Tissue & Faecal Samples	SGXM003
Nucleic Acid Extraction Kit - Magnetic Based Specimen : Sputum	SGXM004
Nucleic Acid Extraction Kit - Magnetic Bead Specimen : Paraffin Embedded Formalin Based Tissue (PEFBT)	SGXM005

COLUMN BASED EXTRACTION KIT

Background

Xygene Column based Extraction Kit is established on interaction of Nucleic acid to Silica gel membrane embedded in column. Nucleic acids are eluted using no salt or high salt buffer in a spin column.



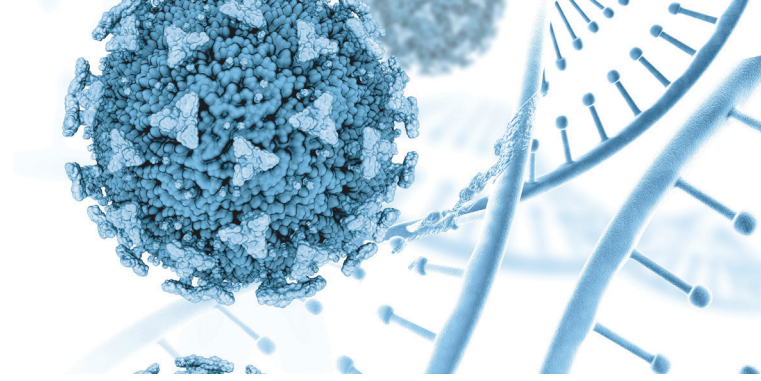
Product Specification

Test type	Professional use only
Specimen type	Whole Blood, Serum, Plasma, Sputum, Urine, Tissue, Saliva, CSF, Cell Culture fluid, Cell scrapings, Faeces & PEFBT
Packing Configuration	20T Pack
Storage condition	Shipped & Stored at RT

Product Details

Product Name	Product Code
Nucleic Acid Extraction Kit - Column Based Specimen : WB, Serum, Plasma, Urine, Saliva, Cell Culture fluid, Swabs, CSF, Cell Scrapings	SGXC001
Nucleic Acid Extraction Kit - Column Based Specimen : WB, Serum, Plasma, Urine, Saliva, Cell Culture fluid, Swabs, Tissue & Faecal	SGXC002
Nucleic Acid Extraction Kit - Column Based Specimen : Sputum	SGXC003
Nucleic Acid Extraction Kit - Column Based Specimen : Paraffin Embedded Formalin Based Tissue (PEFBT)	SGXC004

MOLECULAR AUTOMATION SYSTEM



At Xygene, we manufacture Diagnostic tests, Instruments and Solution oriented support in the field of Food Safety, Animal Health and Human HealthCare. With the power to transform healthcare for people around the globe, we aspire to offer a robust end-to-end portfolio that is uniquely designed to address the real-world needs of laboratories, their customers, and the patients they serve. Diagnosing the disease, monitoring its treatment & staying one step ahead, is what we are enabling with our Molecular Intelligence Platform

Intelligent Molecular Platform for Smart Healthcare

Xygene NUCLEIC ACID EXTRACTION SYSTEM

BACKGROUND

Xygene Nucleic acid Extraction System is an automated DNA/RNA extraction system, which yields a high quantity DNA/RNA extract for further carrying out the PCR assay. The optimized procedure for inbuilt (mixing and tapping) ensures the magnetic bead to be in a homogeneous suspension and thus allows maximized DNA yield. This instrument reduces processing time and also decreases human errors which enhance the reproducibility of the results.

Application: The product can be used to extract highly purified nucleic acid from a wide range of sample types relevant for veterinary, human, aquatic and food diagnostics, genetic identity testing, forensic testing, biomedical research, and gene expression analysis.



MODEL NO: SGG001A

Product Specification

Technology	Magnetic Bead based extraction
Number of Samples	32
Feature	Standalone Machine with touch screen control
Open/Closed System	Closed; Suitable for Xygene CT Magnetic Based Nucleic Acid Extraction kits
Power	AC 100 ~ 240 V, 50 / 60 Hz, 5A (240 V)

GeneBot REAL TIME PCR MACHINE

BACKGROUND

GeneBot RT82 Real-Time PCR machine is a portable fluorescence quantitative PCR instrument with double channel and double 8-well blocks, which can run two files simultaneously. The system incorporates innovative optical technologies with powerful software to provide maximal reliability and efficiency for your entire real time PCR assay.

Application: The product can be used for real-time detection in veterinary, human, aquatic and food diagnostics, forest farm, breeding farm and water source. It is used for rapid diagnosis of disaster and epidemic disease, inspection and quarantine in the field of food safety and scientific research in biological laboratories.



MODEL NO: GeneBot RT 82

FEATURES

- ▶▶ Double channels and double 8-well blocks design.
- ▶▶ Powerful software supportive for Quantitative Analysis, Melting Curve Analysis, Genotyping, etc.
- ▶▶ 7-inch high definition TFT color touch screen, and embedded win 10 operating system.
- ▶▶ 20G flash memory can save 40,000 experimental data.
- ▶▶ Adopting side scan technology, the detection distance is close, and the fluorescence acquisition signal is stable
- ▶▶ The electromagnetic lock cover technology prevents the hot lid from accidentally opening.
- ▶▶ Front shutdown button makes file data more secure.
- ▶▶ Forward and backward air vent design, can be placed side by side, saving laboratory space.
- ▶▶ Black reaction block avoid background noise.
- ▶▶ Adopt the same acquisition optical path to improve the repeatability.
- ▶▶ LED light source has the advantage of energy saving, environmental protection, long service life and maintenance free
- ▶▶ Constant current control circuit makes power output smooth and extends Peliter life, also improves temperature control accuracy.
- ▶▶ It has the protection functions of over-current, over temperature power-off data self recovery, etc.

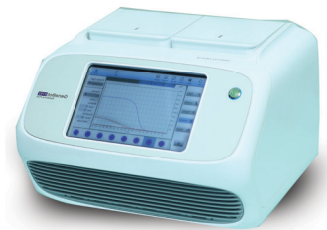
Product Specification

Sample capacity	16×0.2ml (2×8well, double block)
Consumable	Clear 0.2ml PCR tube/8tube strip
Reaction volume	10-100 μ l
Temperature control technology	Marlow customized Peltier allow 1,000,000
Temperature Range	0-100 °C (Resolution: 0.1° C)
Uniformity	+ \pm 0.25° C
Accuracy	+ \pm 0.25° C
Excitation wavelength	460-550nm
Emission wavelength	500-580nm
Factory Calibrated Dyes	FAM/SYBR Green , HEX/VIC/JOE/TET
Sensitivity	1 copy
Power	DC15V 255W

GeneBot REAL TIME PCR MACHINE BACKGROUND

GeneBot RT82 Real-Time PCR machine is a portable fluorescence quantitative PCR instrument with double channel and double 8-well blocks, which can run two files simultaneously. The system incorporates innovative optical technologies with powerful software to provide maximal reliability and efficiency for your entire real time PCR assay.

Application: The product can be used for real-time detection in veterinary, human, aquatic and food diagnostics, forest farm, breeding farm and water source. It is used for rapid diagnosis of disaster and epidemic disease, inspection and quarantine in the field of food safety and scientific research in biological laboratories.



MODEL NO: GeneBot RT 82

FEATURES

- ▶▶ Double channels and double 8-well blocks design.
- ▶▶ Powerful software supportive for Quantitative Analysis, Melting Curve Analysis, Genotyping, etc.
- ▶▶ 7-inch high definition TFT color touch screen, and embedded win 10 operating system.
- ▶▶ 20G flash memory can save 40,000experimental data.
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- ▶▶ Constant current control circuit makes power output smooth and extends Peliter life, also improves temperature control accuracy.
- ▶▶ It has the protection functions of over-current, over temperature power-off data self recovery, etc.

Product Specification

Sample capacity	16×0.2ml (2×8well, double block)
Consumable	Clear 0.2ml PCR tube/8tube strip
Reaction volume	10-100
Temperature control technology	Marlow customized Peltier allow 1,000,000
Temperature Range	0-100 °C (Resolution: 0.1° C)
Uniformity	+ \pm 0.25° C
Accuracy	+ \pm 0.25° C
Excitation wavelength	460-550nm
Emission wavelength	500-580nm
Factory Calibrated Dyes	FAM/SYBR Green , HEX/VIC/JOE/TET
Sensitivity	1 copy
Power	DC15V 255W

GeneBot REAL TIME PCR MACHINE

BACKGROUND

GeneBot RT84 Real-Time PCR machine is a portable fluorescence quantitative PCR instrument which uses a four-channel 8-well block design. The customized Peltier, high-sensitivity photodetector and side scanning technology add to the superior performance and stable detection. The system incorporates innovative optical technologies with powerful software to provide maximal reliability and efficiency for all your real-time PCR assays.

Application: The product can be used for real-time detection in veterinary, human, aquatic and food diagnostics, forest farm, breeding farm and water source. It is used for rapid diagnosis of disaster and epidemic disease, inspection and quarantine in the field of food safety and scientific research in biological laboratories.



MODEL NO: GeneBot RT 84

FEATURES

- ▶▶ Four channels and double 16-well blocks design.
- ▶▶ Powerful software supportive for Quantitative Analysis, Melting Curve Analysis, Genotyping, Relative quantification, etc
- ▶▶ 7-inch high definition TFT color touch screen, and embedded win 10 operating system.
- ▶▶ 20G flash memory can save 40,000 experimental data.
- ▶▶ Forward and backward air vent design, can be placed side by side, saving laboratory space.
- ▶▶ Black reaction block avoid background noise.
- ▶▶ LED light source has the advantage of energy saving, environmental protection, long service life and maintenance free.
- ▶▶ The electromagnetic lock cover technology prevents the hot lid from accidentally opening.
- ▶▶ Front shutdown button makes file data more secure.
- ▶▶ Constant current control circuit makes power output smooth and extends Peliter life, also improves temperature control accuracy.
- ▶▶ It has the protection functions of over-current, over temperature power-off data self recovery, etc.
- ▶▶ Imported 32 bundled optical fibers are used to collect fluorescence from the side to increase the intensity of fluorescence signal and reduce light conduction damage.

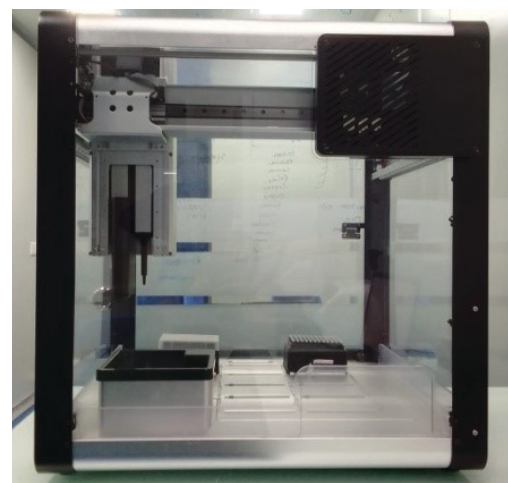
Product Specification

Sample capacity	32×0.2ml (2×8well,double block)
Consumable	Clear 0.2ml PCR tube/8tube strip
Reaction volume	10-100
Temperature control technology	Marlow customized Peltier allow 1,000,000
Temperature Range	0-100° C (Resolution: 0.1° C)
Uniformity	+_0.25° C
Accuracy	+_0.25° C
Excitation wavelength	460-550nm
Emission wavelength	500-580nm
Factory Calibrated Dyes	FAM/SYBR Green, HEX/VIC/JOE/TET; ROX; CY5
Sensitivity	1 copy
Power	DC15V 255W

GeneBot LIQUID HANDLING ROBOT

BACKGROUND

The GeneBot Liquid Handling Robot is a high-precision, open-source liquid handler designed to be easy for scientists to use and flexible enough to automate many application workflows. It has a user-friendly, plug and play graphical interface to design protocols compatible with any ANSI/SBS compliant or automation friendly labware. The base model includes a Single-Channel Pipette; you can also use up to two pipettes at the same time. Additional pipettes can be purchased separately and are easily



FEATURES

- ▶ Flexible open-source platform.
- ▶ Self-serve unboxing and installation.
- ▶ Reagent agnostic.
- ▶ Plug-and-play setup with access to protocol libraries to enable immediate assay implementation.
- ▶ Easily integrates to your existing instruments.
- ▶ Compatible with ANSI/SBS compliant or automation friendly tubes, microplates, deep-well plates, reservoirs and adapters.
- ▶ Supports Ethernet or USB connection (external dongle provided).
- ▶ Easy access to electronics via external PCBA enclosure.
- ▶ LED indicators provide users feedback, diagnosis & troubleshooting aid on instrument power state, system processing, ethernet and network connectivity
- ▶ 4 USB ports available to support connection to multiple modules.

Product Specification

Dimension	63cm x 57cm x 66cm / 25in x 22.5in x 26in (W,D,H)
Net weight	48kg or 105.8 lb
Frame composition	Rigid steel and CNC aluminium design
Pipette configurations	Single and 8-channel pipetting
Voltage	100-240 VAC / 50-60 Hz
Power	220 W MAX
Temperature	Recommended 20-24° C
Relative Humidity	40-60%
Speed	Fills a 96-well plate in 22 seconds
Sterility	Full polycarbonate enclosure designed to limit exposure



Manufactured By
SAYGEN GENETICS

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