



ICAR-CIBA - a nodal R&D agency working in brackishwater aquaculture for the past three decades with a vision of environmentally sustainable, economically viable and socially acceptable aquaculture technologies, system interventions, technology backstopping and policy inputs by the institute, contributing to economic benefits of the sector which has already recorded annual export revenue of ₹ 23,000 crores apart from domestic consumption.

White Spot Syndrome Virus Real time PCR Detection Kit

About the disease and the Pathogen

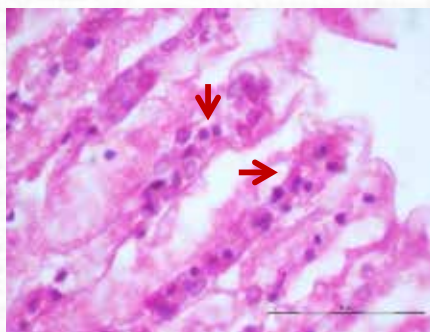
The white spot syndrome virus (WSSV) is the causative agent of white spot disease (WSD) in shrimp. This is the most virulent, fast replicating and widespread shrimp pathogenic virus causing high mortality of about 90% to 100% within 3-10 days after infection and severe economic loss to the global shrimp farming industry. The host range of WSSV includes a wide range of decapod and non-decapod species. It can be transmitted vertically from infected brood stock to post larvae, horizontally by cannibalism and via environmental sources such as live carriers, water and sediments. Currently, there is no therapeutic measure to control the disease. Biosecurity or the exclusion of this virus from the culture system is the only means to manage this disease in aquaculture. This can be achieved by early detection of WSSV through PCR and is very crucial in prevention and spread of this disease.

Clinical signs of White Spot Disease

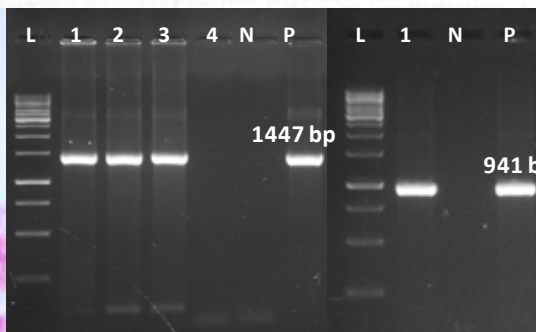


Detection of White Spot Disease

Various diagnostic procedures have been developed for detection of WSSV. These include histopathological techniques, DNA probe based methods, immunological methods and several Polymerase Chain Reaction assays. Among these diagnostic techniques, PCR based diagnostic techniques are simple, reliable and provides high degree of sensitivity and specificity in detection of WSSV



Eosinophilic inclusions in WSSV infected gill sections



Nested PCR Gel electrophoresis of WSSV

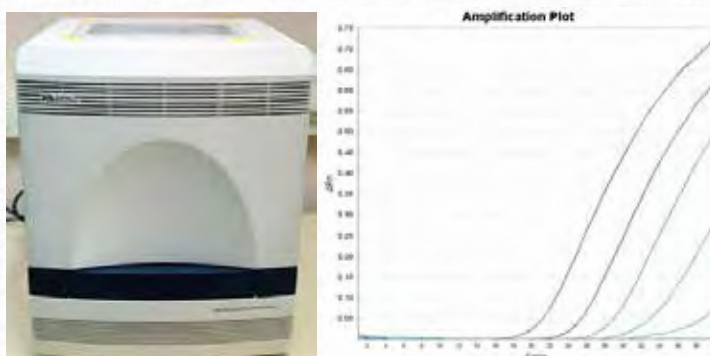


CIBA WSSV Nested PCR Kit



About the Kit

ICAR-CIBA is a lead research institution in the area of aquatic animal health in India and involved in development of fast, accurate and cost effective diagnostic kits for major shellfish and finfish pathogens in India. In this effort institute has developed a simple, cost-effective, rapid and sensitive diagnostic real time PCR assay kit. This assay is designed for the detection of WSSV as low as 2 copies of viral DNA. This kit is cost effective, user friendly and does not require post PCR procedure. This assay also includes a house keeping gene that will ensure perfectness of PCR assay and nullifies any chances of false negative results due to failure in DNA extraction and presence of PCR inhibitors in the DNA.



Real time (qPCR) detection of WSSV

Contents of the Kit:

- Kit package comes with either 50 or 100 reactions
- The kit includes reagents for DNA extraction and reagents for qPCR such as Real time master mix with Rox, Primer probe mix, negative and positive controls.
- Step by step protocol for performing the test



Name of the kit	WSSV real time PCR assay kit
Intended use	Detection of WSSV in shrimp tissue samples.
Test capacity	50 or 100 reactions per kit
Sensitivity	2 copies per reaction
Specificity	Specific to WSSV and does not cross react with other shrimp viral pathogen.
Speed of diagnosis	90 minutes (including DNA extraction)
Target users	Commercial aquaculture diagnostic and shrimp hatchery laboratories, Research organizations
Export potential	Yes

“Brackishwater Aquaculture for Food, Employment and Prosperity”

ICAR-Central Institute of Brackishwater Aquaculture

(ISO 9001:2015 certified)

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