



भाकृअनुप – केन्द्रीय खारा जलजीव पालन अनुसंधान संस्थान

ICAR - CENTRAL INSTITUTE OF BRACKISWATER AQUACULTURE ISO 9001:2008 CERTIFIED [www.ciba.res.in](http://www.ciba.res.in)

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## Improved nested PCR for White Spot Syndrome Virus

### About the pathogen (WSSV)

White spot syndrome virus (WSSV) is the most virulent, fast replicating and widespread shrimp pathogenic virus causing high mortality and severe economic loss to the global penaeid shrimp farming industry. It has been notified by the world organisation for animal health or the Office Internationale de Epizooties (OIE) as a reportable disease. It can be transmitted vertically from infected brood stock to post larvae, horizontally by consumption of infected tissue (e.g. cannibalism, predation, etc.), 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 devastating agent in 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.

### About the diagnostic kit

Being a lead research institution in the area of aquatic animal health, ICAR-CIBA is involved in development of fast, accurate and cost effective diagnostic kits for major shellfish and finfish species cultured in India. In this effort institute has developed a kit with nested PCR system. This assay is designed for the specific and sensitive detection of WSSV as low as 20 copies of viral DNA. This kit is cost effective, user friendly and can be performed consistently with minimum laboratory skills. The assay kit contains all the required materials and reagents for DNA isolation and PCR and presented in such a way that handling has been limited to the minimum. This kit also includes a house keeping gene that will ensure perfectness of nucleic acid extraction and the PCR reaction and nullifies any chances of false negative results.

### Who are the potential customers for WSSV KIT?

1. Aquaculture diagnostic laboratories
2. Shrimp hatcheries in India and overseas
3. Department of Fisheries of state governments
4. Fisheries Colleges and universities
5. Marine Biology departments of colleges and universities
6. Research Institutes/service laboratories of state and central Governments

**Cost of production:** Production cost is expected to be Rs. 5000 per 100 reaction kit and has the potential to be sold at MRP Rs.30,000.

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