

For information and orders,  
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**DIAG4ZOO**

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White Spot Virus Syndrom (WSSV) and Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV) cause mortalities and economic losses estimated in millions of dollars in shrimp farming. These viral diseases are particularly difficult to control and prophylaxis (preventive measures) remains the most reliable way to control losses.

WSSV is observed in many species of shrimps and crabs from various geographical areas and can cause up to 100% mortality with devastating economic impact.

IHHNV is one of the most serious viral diseases in shrimp farming. This virus is widespread in many countries and has a wide host range, which has contributed to its dissemination in many species of cultured shrimps.

In order to optimize shrimp production and to limit the risks of horizontal and vertical transmission, DIAG4ZOO proposes the White Spot Virus kit to detect low level or early viral infections.

This kit has many advantages:

- The interpretation of the results on the membrane can be done with the **naked eye** thanks to a colorimetric revelation on the nylon membrane
- Only one step is necessary for a **multiple detection**
- The result is **fast** (less than 4 hours) **and easy to use**
- The test has a high sensitivity and specificity



**Simultaneous detection  
of  
White Spot Syndrome Virus (WSSV)  
and  
Infectious Hypodermal and  
Hematopoietic Necrosis Virus (IHHNV)**

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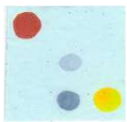
## MULTIPLE DETECTION

Multiple detection is a major advantage. Probes are plotted in **pre-defined positions** on the nylon membrane. Thus, the interpretation of the results visualised on the membrane is easy and can be read with the **naked eye**.

An **internal control** is added to each reaction. It is a PCR and hybridization positive control DNA fragment which is used to **prevent false negatives**.



Test WSSV  
positive



Test IHHNV  
positive

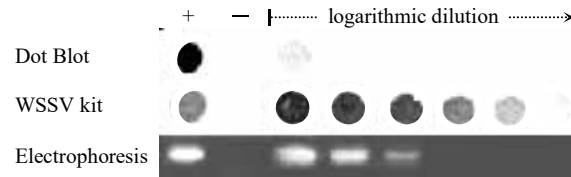


Non-infected  
*Internal Control*  
OK

## HIGH SENSITIVITY

The WSSV & IHHNV detection kit substantially increases the power detection limit for pathogens and is a highly sensitive method contributing to virus prophylaxis.

- **10 000 times** more sensitive than the Dot Blot method.
- **100 times** more sensitive than standard detection by electrophoresis of PCR amplified products.



Quere R et al., J Virol Methods 2002

It is the ideal method for detecting **low level or early infections** in view of limiting the risks of horizontal and vertical transmissions.

Its reliability and high sensitivity can replace advantageously the regular and tedious methods of revealing the amplification results by electrophoresis. Especially eliminating the use of Ethidium bromide which is a carcinogenic dye.

## RAPID AND « EASY TO USE » TEST

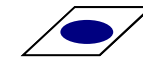
The WSSV & IHHNV detection kit is rapid: one to 48 reactions can be carried out simultaneously within **4 – 5 hours**.



A. Processing of the samples  
*30 minutes*



B. Polymerase chain reaction (PCR)  
*2 hours*



C. Hybridisation and visualisation  
*1 hour*

The processing of the sample is rapid and easy : **simply heat** in boiling water.

The membranes provided with the kit are **ready to use**.

The interpretation of the results is easy: presence or absence of blue dots can be detected with the **naked eye**.

**Few equipment is required**: except the thermocycler, only basic equipment such as a water-bath, a small bench centrifuge and a shaker are necessary. Thus, this method can be easily used in farms or hatcheries already using PCR as a diagnostic