



PhilGeneStrips

DNA-based Biosensor Kit for Quick Detection of Shrimp Pathogens

Features

- ✓ Affordable
- ✓ Easy to use in the field
- ✓ High sensitivity & specificity
- ✓ DNA-based detection
- ✓ Single (WSSV) or multiple-pathogen detection (AHPND)

- AHPND or EMS, on-going development

- ✓ Mobile app and cloud computing-ready

Description

PhilGeneStrip is a DNA-based Lateral Flow Strip Biosensor (LFSB) for the shrimp industry which answers the need for a quick, rapid, sensitive, and affordable pathogen detection kit.

Industry-wide Impact

The PHP20 billion shrimp farming industry in the Philippines is not at its optimum, producing nearly half of its output in the 1990s before it experienced a pathogen outbreak that nearly wiped out the entire industry. Given the 160,000 hectares of brackish water farms along the Philippine coastlines, a lot of potential income and jobs remain unrealized. Key to controlling pathogen outbreak is early detection of the disease which then allows for rapid farm management response to minimize the effects. This product is an output of an on-going strategic program of the PCAARRD-DOST for this aquaculture industry.

DEVELOPMENT TEAM



Competitive Advantage

Unlike similar test strips, our platform is DNA-or genome-based. It detects in a test strip format the presence (or absence) of a pathogen (WSSV, AHPND) in shrimp tissue samples at an early stage of infection. With a short DNA extraction step, the test results may be obtained in about 30 minutes. The use of local genomics data from the Philippine Genome Center facilitates regional speciation particularly for possible new strains of pathogens. Rapid development in the field of genomics shall translate into further cost reduction and improvements in detection performance for our diagnostics technology.

Product Development Stage:

The project is now moving towards field testing and market validation. Eventual commercialization of this technology is initially targeted for the Philippines with pricing aimed to be competitive with current detection methods. The product may be used with value-added services for farm management such as an accompanying database and data management suite which is also linked to the Online Philippine Shrimp Pathogen Information Resource (OPSPIR) of the SEAFDEC.



CONTACT

E. P. Enriquez, PhD or N. R. L. Rojas, PhD
Ateneo de Manila University,
Loyola Heights, Quezon City.
Telefax : 426-1323
Email : epenriquez@ateneo.edu