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Indian shrimp researchers earn a patent for WSSV diagnostic tool

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By Responsible Seafood Advocate

Researchers from Agharkar Research Institute claim results in as little as 20 minutes

Researchers from Agharkar Research Institute have earned a patent for a diagnostic tool that detects White Spot Syndrome Virus, which can cause mass mortalities in shrimp aquaculture.

The peptide-based tool developed at ARI – an autonomous institute of the Department of Science and Technology – was granted on March 31 as an alternative biorecognition element. Drs. Prabir Kulabhusan, Jyutika Rajwade and Kishore Paknikar developed a lateral flow assay using gold nanoparticles for easy visualization of the results.

“Our data indicates high specificity (100 percent) and sensitivity (96.77 percent) of the assay, early detection from hemolymph, highly reproducible results with a time-to-result of only 20 minutes,” said Dr. Jyutika Rajwade. The inventors previously published their research in *Applied Microbiology & Biotechnology* (<https://pubmed.ncbi.nlm.nih.gov/28349164/>), and *Journal of Molecular Modelling* (<https://pubmed.ncbi.nlm.nih.gov/32914310/>).

WSSV presents a major economic threat to Pacific white shrimp (*Penaeus vannamei*), the predominant species of shrimp farmed in India, one of the world’s leading shrimp producers. Early detection of



Researchers from Agharkar Research Institute earn a patent for a diagnostic tool that detects White Spot Syndrome Virus in farmed shrimp. Photo by Richard Martínez.

pathogens that cause infectious disease can save the industry from huge losses.



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