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Acute Hepatopancreatic Necrosis Disease (AHPND): Prevalence, Pathogenesis, Detection, Causative Factors and Mitigating Methods



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Abstract

Since its emergence in 2009, Acute Hepatopancreatic Necrosis Disease (AHPND) has caused substantial economic losses to the shrimp industries. However, presently, there is no 'silver bullet' or effective treatment for this disease. The recent progress in molecular and proteomic techniques has made it possible to obtain information on the AHPND toxins and their characteristics. However, fundamental knowledge gaps remain although some of the key host-pathogen interactions have been well-established via several types of shrimp challenge test, detailed histopathological analysis and development of molecular tools to detect AHPND. Hence, further research is still required to fully understand the mechanisms and mode of infection for this disease. This review provides a state-of-the-art overview of the topic and emphasises the current progress and critique strategies for AHPND treatment.

Biography

Sarmila Muthukrishnan is a worked as research scientist at university putra Malaysia (UPM). She was a Lab Manager in Biovalence since 2014- Feb 2017. She was leading the Shrimp Disease Centre, under the purview of Blue Archipelago. She has experience and vast knowledge in shrimp diseases screening (DNA viruses, RNA viruses and bacterial infection), water quality analysis, isolation of potential probiotics, in vivo and in vitro analysis of the potential probiotic, toxicity tests of the pathogen, primer designs for the targeted genes and identification of the potential probiotics. She has successfully mentored and managed over 20 interns from various universities. Her key areas of expertise includes R&D in aquaculture wastewater treatment and shrimp disease screening. She also has in depth knowledge in scientific reporting, laboratory management and R&D related.



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