



Incidence of Vibriosis disease of Cultured Asian seabass (*Lates calcarifer*) in Iran

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Abstract:

It is considered as one of the main challenges for the production of marine fish and Asian seabass, causing significant losses, especially in cage culture systems. Many researchers point out that vibrios is a major cause of bacterial disease in marine aquaculture, and pointed out that in order to prevent the onset of vibriosis, a serious effort should be made to determine the virulence of various species of vibrio, their pathogenicity and the production of vaccine strains. In this study, a total number of 110 Asian seabass (80, with clinical signs of disease and 30, apparently healthy fish) with different body weight ranging 50 - 700g were sampled. Isolation was done from internal organs (kidney, heart, spleen and liver) in common method of bacterial isolation and isolates subjected to phenotypic and molecular characteristics using duplex PCR amplification of the 16SrDNA & *vhh* genes respectively genus & species-specific gene. The results of PCR



showed that of the 95 phenotypically identified isolates, only 65 isolates belong to the genus *Vibrio* and 46 (70.76%) of them were identified as *V. harveyi*. The results of this study indicate a high prevalence of *V. harveyi* in marine Asian seabass fish farms. Therefore, prophylactic measures should be considered to prevent vibriosis disease (especially vaccination). Also on the basis of molecular and phenotypic virulence assay, challenge experiment was designed by selecting two of 46 isolates. It was found that *V. harveyi* VHAM1 highly virulent to seabass at LD_{50} 1.2×10^8 c.f.u. g⁻¹ fish that it was used as bacterine.

Keywords: Asian seabass, Vibriosis, virulence, Bacterine, duplex PCR