Evaluation of potential bacteria isolated from marine shellfish as probiotic for *Penaeus monodon* larviculture against pathogenic *Vibrio harveyi*

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Abstract

Probiotics have been widely used as an alternative treatment in aquaculture. This study was carried out to determine the ability of two potential probionts; *Bacillus* strain I24 and *Exiguobacterium* strain S66 in producing biofilm and reducing hemolysin production in two *Vibrio* sp; *Vibrio alginolyticus* and *Vibrio harveyi.* Biofilm assay was carried out to determine the ability of the potential probionts in producing biofilm; a slimy compound that facilitates bacterial attachment. Results showed that all potential probionts able to produce biofilm. Potential probionts started to produce high biofilm formation at 40 hr. For probiont S66, the highest production was recorded at 60 hr, and started to decrease at 70 hr. Meanwhile for potential probiont I24, increased of biofilm formation started at 30 hr until 70 hr. Furthermore, *V. harvey*i and *V. alginolyticus* had lower biofilm formation compared with the potential probionts. Thus, results indicated that potential probionts S66 and I24 possibly able to compete with pathogen for adhesion sites hence colonize the host. Hemolysin assay was carried out to determine the ability of potential probionts in reducing hemolysin production that caused hemolysis, which was one of the virulence factor in *Vibrio* sp.. Incubation of potential probionts and pathogen showed no reduction in hemolysin production.

Keywords: Biofilm, hemolysin, probiont S66, probiont I24, *Vibrio* sp.

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