

Characterization of potential probionts from blue swimming crab *Portunus pelagicus* and its antagonistic activity against *Vibrio harveyi*

ABSTRACT

The aim of this study was to isolate local bacteria as potential probiont in controlling the growth of pathogenic *Vibrio harveyi*. Eleven potential bacteria were successfully isolated from the haemolymph of four healthy *Portunus pelagicus*. All of the isolates were identified as *Bacillus amyloliquefaciens* by series of biochemical test using triple sugar ion test, oxidase and catalase test, followed by Internal Transcribe Spacer (ITS) gene sequence analysis. This isolate was able to inhibit the growth of *V. harveyi* in in-vitro screening assay by using well diffusion assay with the strong antagonistic activity from 7 to 16 mm. The potential strains at 10⁸ CFU/ml showed highest inhibition response towards *V. harveyi* after co-cultured for 48 hr. The isolates produced four major extracellular enzymes which were amylase, protease, gelatinase and lipase and able to form biofilm after 24 hr of cultured. Thus, *B. amyloliquefaciens* showed important characteristics as probiotic which worth to be carried out for in vivo challenge assay.

Keyword: Antagonistic activity; *Portunus pelagicus*; *Bacillus amyloliquefaciens*; Probiotic; *Vibrio harveyi*