FINAL REPORT OF RESEARCH PROJECT B-0103-12-ER/U078

BIOCHEMICAL AND MOLECULAR CHARACTERIZATION OF VIBRIO SPP. ISOLATED FROM HATCHERY AND AQUACULTURE GROW-OUT SYSTEMS

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2007

Project Synopsis

Bacterial fauna of sea bass suffering from vibriosis was investigated. Several *Vibrio* species were isolated and identified using sequencing of partial sequence of 16S rRNA gene. One *Vibrio* species, *V. harveyi* strain VHJR7 was tested for its virulence to sea bass, and result showed the bacterium was indeed virulent. LD_{50} derived from challenge test of this pathogen to 100 sea bass juveniles measuring 10-30g body weight was at 1 x 10^3 CFU/ml. The partial 16S rRNA gene of the pathogen and other *Vibrios* were deposited into genbank (http://www.ncbi.nih.gov) with accession numbers as shown in Table 17 and 18 of this report. Rapid diagnostic method and vaccine for the pathogen is being investigated at the Borneo Marine Institute.

Sinopsis Projek

Bakteria fauna ikan siakap yang menghidap penyakit vibriosis telah dikaji. Beberapa spesis *Vibrio* berjaya dipencilkan dan dikenalpasti menggunakan jujukan gen 16S rRNA. Salah satu spesis *Vibrio*, iaitu *V. harveyi* strain VHJR7 telah dikaji kevirulenannya terhadap ikan siakap, dan ternyata ianya virulen. LD_{50} yang diperolehi melalui ujian kevirulenan patogen ini terhadap 100 ikan siakap yang mempunyai berat keseluruhan di antara 10-30g ialah 1 x 10^3 CFU/ml. Jujukan separuh gen 16S rRNA patogen ini dan *Vibrio-vibrio* yang lain telah dihantar ke genbank (http://www.ncbi.nih.gov) dengan nombor acessinya sebagaimana yang ditunjukkan di Jadual 17 dan 18 laporan ini. Kaedah diagnosis pantas dan penghasilan vaksin terhadap patogen ini sedang dijalankan oleh Institut Penyelidikan Marin Borneo.