IDENTIFICATION OF FISH PROTOZOAN, *Cryptocaryon irritans* RESISTANT CANDIDATE GENE(S) IN SEA BASS (*Lates calcarifer*) FINGERLINGS

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ABSTRACT

Genes differentially expressed in gill of survived sea bass after a 7-day infection of *C. irritans* was compared to control fish by using differential display (GeneFishing DEG system; SeeGene). Previous studies showed that sea bass fingerlings infected with cryptocaryoniasis would not be infected severely or result in high mortality for the second time. Infected fish showed symptoms without being killed. This study aims to explore the preliminary resistance of fish against this disease at gene level. Initial development of cryptocaryoniasis in seven batches of 14 -17g sea bass (n = 35) were conducted at hatchery. Once white spot was seen on the body, the infected fish were transferred into new tanks and maintained for 7 days. The gills of the survived fish and control fish were then sampled for RNA extraction. GeneFishingTM kit with 20 sets of primers was used for the detection of Differentially Expressed Genes (DEGs) in survived and control fish. A total of 8 DEGs were obtained by using this kit; 5 from control and 3 from survived sea bass after a 7-day infection of *C. irritans*. All DEGs were extracted and subjected to cloning before sequencing and its gene analysis using NCBI Basic Local Alignment Search Tool (BLAST). BLAST revealed 6 unknown cloned genes whereas 5 cloned genes had significant sequence similarities with known genes of other species in the GenBank database. RT-PCR analysis confirmed the 5 known genes were expressed in gill of survived sea bass after a 7-day infection of *C. irritans*.