

Experimental evidence of horizontal transmission of Betanodavirus in hatchery-produced Asian seabass, *Lates calcarifer* and brown-marbled grouper, *Epinephelus fuscoguttatus* fingerling

Abstract

In the present study we report the experimental evidence of horizontal transmission of betanodavirus in hatchery-produced Asian seabass (*Lates calcarifer*) and brown-marbled grouper (*Epinephelus fuscoguttatus*) fingerling. The experiment was conducted by incubating fish fingerlings in aerated sterile natural seawater inoculated with tissue homogenate of betanodavirus infected fish fingerling at 28° C for 30. min and after which they are transferred into the aquarium. Dead fish were collected daily for 10. days and subjected to RT-PCR and histological examinations. The cDNA of coat protein gene of betanodavirus from positive fish specimens were subjected to RFLP-PCR and DNA sequencing analyses. The result showed high fish mortality in treatment than in the control experiment. The RT-PCR and histological analyses showed all fish specimens in treatment groups except for D2 and E2 were successfully infected with Betanodavirus. In contrast, all fish specimens in control groups remained uninfected. The result of the present study indicate that mixing of fish fingerlings obtained from different sources and the use of surplus fish eggs for feeding supplement can potentially promote the horizontal transmission of Betanodavirus in hatchery. This can threaten the sustainability of aquaculture industry in Malaysia.