

# ASSESSMENT OF STABILITY AND IMMUNIZATION RESPONSE OF *Vibrio parahaemolyticus* L4650 ATTENUATED STRAIN TO SUPPORT VACCINE PRODUCTION AGAINST HEPATIC AND KIDNEY NECROSIS DISEASE FOR MARINE FISH

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## Summary

*Vibrio parahaemolyticus* LBT6 strain caused nephrotoxicity of kidney and liver necrosis isolated from disease groupers was treated with rifampicin to create the attenuated *Vibrio parahaemolyticus* L4650 strain. The *V. parahaemolyticus* L4650 strain was evaluated for stability and immunization response in groupers (*Epinephelus coioides*). The *V. parahaemolyticus* L4650 strain has the same biochemical characteristics as the *V. parahaemolyticus* LBT6 strain, glucose fermentation, indole – positive, catalase – positive, and mobility. Evaluation of antibiotic resistance, *V. parahaemolyticus* L4650 strain was resistant 2/5 antibiotics while LBT6 strain was resistant 4/5 antibiotics. The virulence of the attenuated *V. parahaemolyticus* L4650 strain was stable over time compared with *V. parahaemolyticus* LBT6 strain. The LD<sub>50</sub> values of two of *V. parahaemolyticus* LBT6 and L4650 strains were 10<sup>5.155</sup> và 10<sup>7.155</sup>, respectively. After treatment with L4650 at 10<sup>5</sup> CFU/ml and 100 µl/fish, the groupers was challenged with three doses of 5 LD<sub>50</sub>, 10 LD<sub>50</sub>, 100 LD<sub>50</sub> of *V. parahaemolyticus* LBT6. Protective antibodies was formed after 14 days of treatment and the RPS was quite high, effect of immunization response was assessed quite long, at least up to 6 months after treatment.

**Keywords:** *V. parahaemolyticus* LBT6, *V. parahaemolyticus* L4650, *Epinephelus coioides*, attenuated strain, immunization response.