

## Article Abstract

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| Title:       | Inhibition ability of probiotic, <i>Lactococcus lactis</i> , against <i>A. hydrophila</i> and study of its immunostimulatory effect in tilapia ( <i>Oreochromis niloticus</i> )  |
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| Abstract:    | The present study was designed to investigate the inhibition ability of probiotic, <i>Lactococcus lactis</i> RQ516, against <i>A. hydrophila in vitro</i> and its immunostimulatory effect in tilapia, <i>Oreochromis niloticus</i> as growth promoter. Six tanks were used (T-1 and control treated with and without RQ516, respectively) and three replicates per treatment. The inhibition ability assay <i>in vitro</i> showed that the minimum diameter of the inhibition zone ( $P < 0.05$ ) was $7.43 \pm 0.47$ mm at 6 h and the final diameter at 24 h was $14.77 \pm 1.17$ mm. After 40 days, probiotic treatment as water additives significantly improved the final weight and daily weight gain (DWG) ( $P < 0.05$ ). A significant increase ( $P < 0.05$ ) in the total protein and globulin concentration of tilapia blood serum could be found in T-1 compared with the control. These immune responses were generally more pronounced with probiotic-treated tilapia. As for immune responses, the higher respiratory burst activity (RBA), lysozyme content (LC), myeloperoxidase (MPO) and superoxide dismutase (SOD) activities were observed in T-1 ( $P < 0.05$ ) than the control. It indicated that probiotic <i>Lactococcus lactis</i> RQ516 was beneficial for tilapia in terms of increasing final weight, DWG and the concentrations of serum protein and globulin and enhancing immune responses. |
| Keywords:    | Probiotic; <i>Lactococcus lactis</i> ; Tilapia; <i>Oreochromis niloticus</i> ; immune response   |