Extended Abstract

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Investigation on protective effect of recombinant protein (OmpTS) of *Aeromonas hydrophila* in Common carp (*Cyprinus carpio*)

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Abstract

The outer membrane protein of *Aeromonas hydrophila* is a potential candidate for vaccine development. In this study, after cloning and expression of ompTS, 270 common carp, weighing 44 ± 5.7 g divided into five groups, were injected intraperitoneally twice with 3-week intervals. Groups included the following: PBS, PBS plus Freund's adjuvant, recombinant protein, recombinant protein plus Freund's adjuvant and 20 fish as negative control. Two weeks after the second injection, 30 fish of each group were challenged with a dose of $2 \times LD_{50}$ of *Aeromonas hydrophila* and RPS was measured. The antibody level was measured using ELISA test. The protection of recombinant protein in the immunized fish with and without adjuvant, respectively, was about 82.61% and 78.26% (the protection of recombinant protein electroeluted from an SDS–PAGE with and without adjuvant, respectively, was about 78.62% and 69.57%). The average of antibody level in recombinant protein with and without adjuvant was significantly higher than the PBS group ($p < .05$). The ability of recombinant ompTS to increase the antibody level and to protect the fish from challenge by *A. hydrophila* demonstrated that recombinant ompTS protein injection can be used to immunize common carp against *A. hydrophila* infection.

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