CONSTRUCTION AND EVALUATION OF AN *EDWARDSIELLA ICTALURI* VIRULENCE PROTEIN F MUTANT

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Edwardsiella ictaluri is a Gram-negative facultative intracellular pathogen causing enteric septicemia of catfish (ESC), a devastating disease causing millions of dollars production losses and treatment costs. *E. ictaluri* has variety of distinct mechanisms to survive in the stressful host environment. Type VI Secretion System (T6SS) is involved in survival of intracellular bacteria inside the host immune cells. However, the role of T6SS in *E. ictaluri* virulence is not known yet. Thus, the purpose of this research was to understand the extent to which T6SS is involved in *E. ictaluri* virulence. To this aim, we generated an *E. ictaluri* T6SS mutant (*EiΔevpF*) and assessed its virulence in channel catfish. The fish trials indicated that *EiΔevpF* is highly attenuated in channel catfish. Also, vaccination of catfish using the *EiΔevpF* mutant provided a good protection against wild-type *E. ictaluri* infection in catfish.

KEYWORDS:

Edwardsiella ictaluri

Enteric Septicemia of Catfish (ESC)

Type VI Secretion System

Live-attenuated vaccine

Virulence

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