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SHORT COMUNICATION

Gills specific type 2 crustin isoforms: its molecular cloning and characterization from kuruma shrimp *Marsupenaeus japonicus.*

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Abstract

Crustins are diverse group of antimicrobial peptides (AMPs) which have numerous isoforms mainly identified from hemocytes in decapods crustacean. However, little is known about its presence solely in gills tissue. In this study, we found two new crustin isoforms MjCRS8 and MjCRS9 by using transcriptome analysis from gills. Open reading frame of MjCRS8 and MjCRS9 were 593 bp and 459 bp encoding 197aa and 152aa, respectively. Tissue distribution analysis indicated that both MjCRS8 and MjCRS9 are expressed only in gills tissue. Multiple alignment and phylogenetic analysis with previously reported crustin suggested that both MjCRS8 and MjCRS9 belong to type 2 crustin family. Experimental infection was conducted against *Vibrio parahaemolyticus* and white spot syndrome virus (WSSV) by immersion test. However, no significant upregulation was observed.

Key words: Antimicrobial peptides (AMPs), crustin isoform, gills specific, *Vibrio parahaemolyticus*, WSSV

1. Introduction

Penaeid shrimp immune system primarily rely on innate immunity against wide range of pathogens as an absence of adaptive immunity (Aguirre-Guzman et al., 2009; Maningas et al., 2013). Antimicrobial peptides (AMPs) are one of the essential immune molecule of