

Characterization of Crustin from *Litopenaeus vannamei*

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Abstract : A crustin gene, LV-SWD1, previously found in the hemocyte cDNA library of *Litopenaeus vannamei*, contains the open reading frames of 288 bp encoding a putative protein of 96 amino acid residues. The putative signal peptides of the LV-SWD1 were identified using the online SignalP 3.0 with predicted cleavage sites between Ala24-Val25, resulting in 72 residue mature protein with calculated molecular mass of 7.4 kDa and predicted pI of 8.5. This crustin contains a Arg-Pro rich region at the amino-terminus and a single whey acidic protein (WAP) domain at the carboxyl-terminus. In order to characterize their properties and biological activities, the recombinant crustin protein was produced in the *Escherichia coli* expression system. Antimicrobial assays showed that the growth of *Bacillus subtilis* was inhibited by this recombinant crustin with MIC of about 25-50 μ M.

Keywords : crustin, single whey acidic protein, *Litopenaeus vannamei*, antimicrobial activity

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