MOLECULAR CLONING OF CRUSTIN SEQUENCES FROM THE HEMOLYMPH OF INDIGENOUS PENAEID SHRIMP

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Among the antimicrobial proteins or peptides (AMP) identified in crustaceans, crustins are a class of AMP whose biological activity is still very poorly understood. In this study, we report the molecular cloning and characterization of crustin-like sequences from the blood cells or hemocytes of two brazilian penaeid shrimp, *Farfantepenaeus paulensis* and *Litopenaeus schmitti*. Based on RT-PCR and using primers designed on consensus regions of crustins from different crustaceans, we obtained crustin-like sequences in both penaeid species, named *Farpau* CRUS (150 amino acids; GenBank: EF182747) and *Litsch* CRUS (148 amino acids; GenBank: EF182748). Both sequences coded for peptides containing a hydrophobic N-terminal region, rich on glycine residues and a C-terminal end with twelve conserved cysteine residues and a WAP (whey acidic protein) domain. Both sequences had a high amino acid similarity with crustins from different crustacean species, especially with those of *Litopenaeus vannamei (*about 85% similarity). This is the first report of crustin-like sequences in Brazilian penaeid species. The expression of these molecules though recombinant system would enable the investigation of their biological role as antimicrobial molecules, and as protease inhibitors.

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