MOLECULAR CLONING AND CHARACTERIZATION OF AN ANTI-LIPOPOLYSACCHARIDE FACTOR (ALF) FROM THE HEMOCYTES OF THE ATLANTIC WHITE SHRIMP *LITOPENAEUS SCHMITTI*

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Antimicrobial proteins and/or peptides (AMPs) are major components of the innate immune system and are widely distributed throughout vertebrates and invertebrates. Among the identified AMPs of penaeid shrimp we can highlight the ALF, which was very recently characterized, molecularly and functionally, from the blood cells of *Penaeus monodon.* This AMP has a broad and potent antimicrobial activity against Gram positive and negative bacteria and filamentous fungi. In this study, we report the detection and cloning, through RT-PCR, of an ALF-like gene sequence from the hemocytes of the white shrimp *L. schmitti*. The full-length ALF cDNA (GenBank: DQ991357) consists of 400 pb, including an open reading frame of 369 pb encoding 123 amino acids. The deduced signal and mature peptide contain 25 and 98 amino acids, respectively. The cationic mature peptide (theoretical pI = 10.18) has a predicted molecular weight of 11.14 kDa and two conserved cysteine residues. *L. schmitti* ALF showed high amino acidic similarity with ALF from the penaeid shrimps *L. vannamei* (96%), *Marsupenaeus japonicus* (75%) and *P. monodon* (75%). This is the first report of an ALF sequence from a native penaeid. This molecule is presently under production through recombinant system for further evaluation of its antimicrobial activity.

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Key words: antimicrobial peptide, ALF, molecular cloning, penaeid shrimp