

An Invertebrate-Type Lysozyme from Chinese Mitten Crab *Eriocheir Sinensis*: Cloning and Characterization

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Abstract : Lysozyme is a catalytic enzyme that performs bacterial cell lysis by cleaving the β -1,4-glycosidic bond between N-acetylmuramic acid and N-acetylglucosamine of peptidoglycan in cell walls. In the present study, an invertebrate-type (i-type) lysozyme gene was cloned from Chinese mitten crab *Eriocheir sinensis* (designated as EsLysozyme) based on PCR-based rapid amplification of cDNA ends (RACE) technology. The full-length cDNA of EsLysozyme was of 831 bp. SMART and SIGNALP 3.0 program analysis revealed that EsLysozyme contained a signal peptide and a destabilase domain. The five amino acid residues (Tyr63, Trp64, Tyr91, His110, Pro114) and the conserved motif GSLSCG(P/Y)FQI and CL(E/L/R/H)C(I/M)C in i-type lysozymes were also found in EsLysozyme. The high similarity of EsLysozyme with *L. vannamei* lysozymes and phylogenetic analysis suggested that EsLysozyme should be a new member of i-type lysozyme family.

Keywords : i-type lysozyme, *Eriocheir sinensis*, cloning, characterization

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