Molecular Cloning and Identification of a Double WAP Domain-Containing Protein 3 Gene from Chinese Mitten Crab Eriocheir sinensis

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Abstract : Whey acidic proteins (WAP) domain-containing proteins in crustacean are involved in innate immune response against microbial invasion. In the present study, a novel double WAP domain (DWD)-containing protein gene 3 was identified from Chinese mitten crab Eriocheir sinensis (designated EsDWD3) by expressed sequence tag (EST) analysis and PCR techniques. The full-length cDNA of EsDWD3 was of 1223 bp, consisting of a 5'-terminal untranslated region (UTR) of 74 bp, a 3' UTR of 727 bp with a polyadenylation signal sequence AATAAA and a polyA tail, and an open reading frame (ORF) of 423 bp. The ORF encoded a polypeptide of 140 amino acids with a signal peptide of 22 amino acids. The deduced protein sequence EsDWD3 showed 96.4 % amino acid similar to other reported EsDWD1 from E. sinensis, and phylogenetic tree analysis revealed that EsDWD3 had closer relationships with the reported two double WAP domain-containing proteins of E. sinensis species.

Keywords : Chinese mitten crab, Eriocheir sinensis, cloning, double WAP domain-containing protein Conference Title : ICBEB 2014 : International Conference on Biochemical Engineering and Bioengineering Conference Location : Istanbul, Türkiye Conference Dates : June 19-20, 2014

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