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Molecular Cloning of CSP2s, PBP1 and PBP2 Genes of Rhyzopertha dominica

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Abstract : Lesser grain borer, Rhyzopertha dominica, is a causing damages of stored grains all tropical and subtropical area in the global, according to the information of antenna cDNA library of R. dominica, three olfactory protein genes, including R.domica CSPs2, R.domica PBPs1, R.domica PBPs2 genes (GenBank accessions are KJ186798.1, KJ186830.1, KJ186831.1 separately.), were successfully cloned. For sequencing and phylogenetic analysis, R.domica CSPs1 and R.domica CSPs2 belonged to Minus-C CSPs showed that have 4 conserved cysteine residues, while R.domica PBPs1 and R.domica PBPs2 showed conserved amino acids in all PBPs six conserved cysteine residues. The results of transcription expression level of PBPs1 and PBPs2 of R. dominica showed that the expression level of R.domnica PBP2 is much higher than that of R.domnica PBP1. The variation transcription level at the different developmental time suggested the PBP1, and PBP2 had their particular job in searching food sources, mates and oviposition sites.

Keywords : Rhyzopertha dominica, CSPs, PBPs, molecular cloning
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