

## 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.dominica* CSPs2, *R.dominica* PBPs1, *R.dominica* PBPs2 genes (GenBank accessions are KJ186798.1, KJ186830.1, KJ186831.1 separately.), were successfully cloned. For sequencing and phylogenetic analysis, *R.dominica* CSPs1 and *R.dominica* CSPs2 belonged to Minus-C CSPs showed that have 4 conserved cysteine residues, while *R.dominica* PBPs1 and *R.dominica* 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.dominica* PBP2 is much higher than that of *R.dominica* 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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