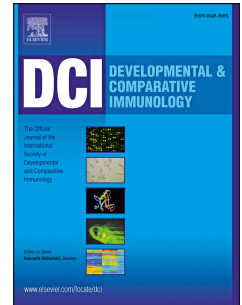


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Prophenoloxidase Activating System in Chinese Mitten Crab (*Eriocheir sinensis*)

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Lipopolysaccharide and beta-1, 3-Glucan Binding Protein (LGBP)
Stimulates Prophenoloxidase Activating System in Chinese Mitten Crab
(*Eriocheir sinensis*)

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Keywords: LGBP, prophenoloxidase activating system, melanization, *Eriocheir sinensis*

ABSTRACT

Melanization mediated by prophenoloxidase (proPO) activating system play an essential role in killing invading microorganisms in invertebrates. Lipopolysaccharide and β -1, 3-glucan binding protein (LGBP) as a pattern recognition protein have been demonstrated to active the proPO cascade in insect and shrimp. In this study, we investigated the role of LGBP in prophenoloxidase cascade-induced melanization in Chinese mitten crab (*Eriocheir sinensis*). By RT-PCR analysis, *EsLGBP* was detected in all tested tissues, and showed highest expression in hemocytes, gill, intestine and brain. The expression of *EsLGBP* was up-regulated in the hemocytes following injections of LPS and β -1, 3-glucan. The recombinant *EsLGBP* protein (*rEsLGBP*) was produced via prokaryotic expression system and affinity chromatography. By western blotting, *rEsLGBP* was discovered to

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