Accepted Manuscript

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PII: S0145-305X(16)30097-0

DOI: 10.1016/j.dci.2016.03.017

Reference: DCI 2592

To appear in: *Developmental and Comparative Immunology*

Received Date: 25 January 2016

Revised Date: 15 March 2016

Accepted Date: 15 March 2016

Please cite this article as: Zhang, X., Zhu, Y.-T., Li, X.-J., Wang, S.-C., Li, D., Li, W.-W., Wang, Q., Lipopolysaccharide and beta-1, 3-Glucan Binding Protein (LGBP) Stimulates Prophenoloxidase Activating System in Chinese Mitten Crab (*Eriocheir sinensis*), *Developmental and Comparative Immunology* (2016), doi: 10.1016/j.dci.2016.03.017.

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

ABSTRACT

Melanization mediated by prophenoloxidase (proPO) activivating 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, *Es*LGBP was detected in all tested tissues, and showed highest expression in hemocytes, gill, intestine and brain. The expression of *Es*LGBP was up-regulated in the hemocytes following injections of LPS and *β*-1, 3-glucan. The recombinant *Es*LGBP protein (r*Es*LGBP) was produced via prokaryotic expression system and affinity chromatography. By western blotting, r*Es*LGBP was discovered to