

LGBP recognizes and binds to *Spirulina platenis* extract, and activates the prophenoloxidase system in shrimp

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Abstract

White shrimp that received *Spirulina platenis* extract is known to increase the immune parameter and resistance against *Vibrio alginolyticus*. However, nothing is known about the mechanism underlying the immunostimulatory action of *Spirulina platenis* extract on shrimp. The binding of rLvLGBP with *Spirulina platenis* extract, and the phenoloxidase activity of shrimp haemocytes incubated with a mixture of rLvLGBP and *Spirulina platenis* extract were examined. Results indicated that rLvLGBP binds to *Spirulina platenis* extract. The phenoloxidase activity of shrimp haemocytes incubated with a mixture of rLvLGBP and *Spirulina platenis* extract significantly increased, compared to controls. It is concluded that LvLGBP can recognize and bind *Spirulina platenis* extract, and subsequently lead to activate prophenoloxidase system in shrimp.

KEYWORDS:

Litopenaeus vannamei, LGBP, recognition, PO activity, *Spirulina platenis* extract

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