

Poster Presentation

[PS02] ポスター発表(学生 B:コアタイム2)

Sat. Mar 30, 2024 12:30 PM - 1:30 PM Sakura (Student) (Sakura)

[PS02-06] Integrins of *Mythimna separata* in Cellular Immunity

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Integrins, as conserved receptors, have been reported to be involved in insect cellular immunity. However, the mechanisms of integrins in these processes remain unclear. To explore the role of integrins in cellular immunity and the underlying mechanisms, we characterized eight α and four β subunits in *Mythimna separata*. Gene expression analysis showed that most integrins were upregulated by the transplantation of large beads rather than the injection of small beads. Especially, integrin $\alpha 2$ (INT $\alpha 2$) was highly upregulated in capsules of abiotic large beads and pathogenic nematodes. Immunostaining analysis of INT $\alpha 2$ revealed that strong fluorescence signals were detected in hemocytes surrounding the beads. Furthermore, the encapsulation ability of hemocytes was inhibited by incubation with INT $\alpha 2$ antibodies. When INT $\alpha 2$ expression was inhibited by injection of dsRNA into larvae, the encapsulation rate of beads was also decreased. Based on the results, we speculate that INT $\alpha 2$ plays an important role in recognizing large invaders and mediating hemocyte behavior in encapsulation.