

Effect of *Cotesia plutellae* Bracovirus on Immune Capacity of *Spodoptera exigua*

Jiwon Kim and Yonggyun Kim

School of Bioresource Sciences, Andong National University

Cotesia plutellae does not parasitize beet armyworm *Spodoptera exigua*. However, a previous study showed that the symbiotic polydnavirus of *C. plutellae* (CpBV) inhibits larval development of *S. exigua* when artificially injected. This study tested a hypothesis that CpBV inhibits immune capacity of *S. exigua* because CpBV is well known to inhibit host insect immune system. When CpBV was injected into late penultimate larval stage, the treated larvae formed significantly less number of hemocyte nodules in response to bacterial infection. CpBV-injected *S. exigua* also exhibited significantly lower lysozyme activity than control larval. These results suggest that CpBV genes can be expressed in non-target host, *S. exigua*, and that the expressed genes alter insect physiology.

Key words: *Cotesia plutellae*, Bracovirus, Polydnavirus, Non-target host, *Spodoptera exigua*, immune