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Adipokinetic hormone activities in insect body infected by entomopathogenic nematode

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Abstract

The role of adipokinetic hormone (AKH) in the firebug *Pyrrhocoris apterus* adults infected by the entomopathogenic nematode (EPN) *Steinernema carpocapsae* was examined in this study. It was found that co-application of EPN and AKH enhanced firebug mortality about 2.5 times within 24 hours (from 20 to 51% in EPN vs. EPN + AKH treatments), and resulted in metabolism intensification, as carbon dioxide production in firebugs increased about 2.1 and 1.6 times compared to control- and EPN-treated insects, respectively. Accordingly, firebugs with reduced expression of AKH receptors showed a significantly lower mortality (by 1.6 to 2.9-folds), and lower general metabolism after EPN + AKH treatments. In addition, EPN