

UPDATES FROM THE CUTTING EDGE

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Life Science & Technology

Venomous Protease of Aphid Soldier for Attacking Predators

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We identified venomous protease from unexplored and unique insect, soldier aphid. In social aphid, soldiers and normal nymphs are, although genetically identical due to parthenogenesis, remarkably different in their morphology, behavior, and reproductive physiology. To understand the molecular basis of soldier aphids, soldier-specific expressed genes in eusocial aphid, *Tuberaphis styraci*, were isolated by a cDNA subtraction. As a result, cathepsin B protease gene was obtained as a major soldier-specific gene. From molecular analyses, it was concluded that the cathepsin B protein was a major component of the aphid venom produced by soldiers.



Aphid soldiers attacking to a predatory lacewing