

Secreted Proteins from Entomopathogenic Bacterium of Wax Moth Larvae, *Galleria mellonella*

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For deployment of a novel biological insecticides, we have investigated the entomopathogenic bacterium of *G. mellonella*. It has been known that the isolated bacterium from larvae naturally infected for rearing on artificial diet produced and secreted a set of proteins into culture broth, which made the broth be toxic to insects. Also, previous studies by others have suggested that insecticidal activity of the broth is associated with the secreted proteins from the bacterium, supporting the possibilities for development of a novel biological insecticides from culture medium of entomopathogenic bacterium. Recently, we have confirmed a set of proteins on SDS-PAGE gel that were secreted into culture broth (tryptic soy broth) from an entomopathogenic bacterium isolated from *G. mellonella* larvae. Although the precise function of the entomopathogenic bacterium has not been elucidated yet, we postulate that the mechanism by which the bacterium is able to kill and reproduce in the host involves the actions of the secreted proteins. As the first step for clarifying it, we purified and characterized one of proteins from TSB medium by consecutive chromatography steps. The purified protein had a molecular mass of approximately 66 kDa on SDS-PAGE gel and the N-terminal sequence (up to 30 residues) showed a high homology to bovine serum albumin, human serum alumin and TB66, which was found in culture broth of *mycobacterium tuberculosis*. Here we report an entomopathogenic bacterium isolated from *G. mellonella* larvae and procedures for purifying one of the secreted proteins.