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PURIFICATION OF A NEW LECTIN FROM *Penicillium chrysogenum* WITH INSECTICIDAL ACTIVITY

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For several years only plant lectins were used as resistant factor to controlling some of insect pests. Recently, another source of protein from mushroom was successfully delivered via artificial diet to confer resistance against some of insect pests. Mushrooms contain various proteins, including ribosome inactivating proteins, proteases, antifungal proteins, and lectins. In this study a lectin from fungi, *Penicillium chrysogenum* (Ascomycetes: Trichocomaceae), named PCL, was purified and partial characterized using gel-filtration chromatography on a sephadex^R G -75 (Amersham Biosciences) column. SDS-polyacrylamide gel electrophoresis gave a major band of 36 kDa. In this study the Hemagglutinating activity of PCL was determined, using rabbit erythrocyte. Results obtained from test specific hemagglutinating activity (units/mg) and recovery of hemagglutinating activity (%) show that only fractions 9 (205.33 units/mg and 50%), which obtained by gel-filtration have a remarkable hemagglutinating activity. this lectin was shown to be a glycoprotein with Aphicide activity. A liquid artificial diet incorporated 1% PCL (10,000µg/ml, w/v) was successfully delivered to the peach-potato aphid, *Myzus persicae* via artificial diet during 7 days. High significant difference was observed between *M. persicae* mortality, which fed on artificial diet containing 1% PCL with of those fed on artificial diet sample (control) after 3, 5 and 7 days. Significant mortality of *M. persicae* was observed when it fed on artificial diet containing PCL compared with of those fed on artificial diet containing 0.1% ConA (*Canavalia ensiformis*, jakbean lectin). Therefore, *M. persicae* was shown that more susceptible to PCL than the ConA (as reference lectin).

Key words: Mushroom; Lectin; *Penicillium chrysogenum*; *Myzus persicae*; Purification .

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