

Improvement of Antibacterial Activity for Ceftazidime by Partially Purified Tannase from *Penicillium expansum*

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Abstract : Tannase has wide applications in food, beverage, brewing, cosmetics and chemical industries and one of the major applications of tannase is the production of gallic acid. Gallic acid is used for manufacturing of trimethoprim. In the present study, a local fungal strain of *Penicillium expansum* A⁴ isolated from spoilt apple samples gave the highest production level of tannase. Tannase was partially purified with a recovery yield of 92.52% and 6.32 fold of purification by precipitation using ammonium sulfate at 50% saturation. Tannase led to increased antimicrobial activity of ceftazidime against *Pseudomonas aeruginosa* and *S. aureus* and had a synergism effect at low concentrations of ceftazidime, and thus, tannase may be a useful adjuvant agent for the treatment of many bacterial infections in combination with ceftazidime.

Keywords : ceftazidime, *Penicillium expansum*, tannase, antimicrobial activity

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