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Antibacterial and Antioxidant Activity of Newly Keratinolytic Bacteria, *Azotobacter chroococcum* B4

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Abstract : Keratinolyticbacteria of *A. chrococum* B4 was evaluated for its potential of antibacterial and antioxidant activity. Kirby-Bauer method was used to know antibacterial potential of B4 againts*Staphylococcus aureus*, *S. epidermidis*, *Bacillus cereus*, *Bacillus pumilus*, *Bacillus subtilis*, *Listeria monocytogenes*, *Proteus* sp., enteropathogenic*Escherichia coli*, *Enterobactersakazakii*, and *Salmonella enterica*. Antioxydant test was done using DPPH radical scavenging activity assay with ascorbic acid as a controll. In this study, hydrolysate of pellet, dialysis, and fraction 25 of B4 keratinase purification of previous study was used for antibacterial and antioxidant test. The result showed that B4 hydrolysatesinhibited Gram positive pathogenic bacteria such as *Staphylococcus aureus* and *Listeria monocytogenes*, and Gram negative *Enterobacter sakazakii*. All hydrolysates showed to have antioxidant properties in which fraction 25 showed higher compared to that of others. This study showed poultry waste-derived keratinase of B4 might be useful as supplementary protein, antibacterial, and antioxidant in the animal feed formulations.
Keywords : Antibacterial, antioxidant, *Azotobacter chrococum*, keratinase.

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