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## EXTRACTION AND CHARACTERIZATION OF SERICIN PROTEIN FROM *Bombyx mori*

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### Abstract

Silk sericin is a water-soluble macromolecular protein obtained from the raw cocoons of silkworm, *Bombyx mori*. It comprises of about 25% of the total cocoon shell weight and is categorized as a waste by-product in textile and silk industries after the extraction of silk fibers. This study emphasizes on the extraction of sericin from *B. mori* by a conventional salt alkaline method and characterized their physico-chemical properties, thermal stability, anti-bacterial and anti-oxidant activities. The extraction yield of the sericin protein from the cocoon was found to be 24 %. FTIR spectrum shows the presence of functional groups corresponding to the amino acids of sericin depicting its purity. TGA analysis demonstrates the degradation of sericin at 210°C with a weight loss of 57.69%. Sericin exhibited effective antibacterial activity against *E. coli* and *S. aureus*. DPPH assay revealed the antioxidant property of the sericin.

*Key words:* antibacterial, *B. mori*, extraction, protein, sericin

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