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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 categorised as a waste by-product in textile and silk industries after the extraction of silk fibres. This study emphasises 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.

Keywords: antibacterial, *B.mori*, extraction, protein, sericin.

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