

Microbe Mediated Keratin Extraction from Animal Hair

Background:

Keratins present in animal hair, hooves, nail and feather have immense use in cosmetic and pharmaceutical industries. However, these proteins are extremely difficult to dissolve and needs harsh mechanical and chemical treatment sometimes at elevated temperature for prolonged period. Such treatments sometimes modify the protein and degrade it producing poor quality keratin proteins. Moreover, some of the chemicals have harmful effects on environment. A microbial process of keratin extraction, on the other hand, is benign and gives good quality keratin proteins.:

Technology Details:

The above problem can be solved if extraction is carried out with keratinolytic enzymes such as keratinases which are produced by a number of bacterial and fungal cultures. Use of purified enzymes being a costly affair sometimes people directly use the microbes producing the enzymes instead. A bacterial culture, AR31, isolated from poultry shop waste has been found to give about 56% dissolution of keratin from coarse sheep wool under specified condition. Such a process of keratin extraction, is not only benign but also environment friendly.

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