

Production of Keratinase and Its Insilico Characterization

Authors : Akshita Bhardwaj

Abstract : Keratinase is an enzyme obtained from extracellular sources that is involved in biodegradation of keratin. It is a member of a group of proteases that can break down keratin into amino acids. Keratinases are produced only in the presence of substrate that contain keratin. It attacked the disulfide bond of substrate and involve in keratin degradation. Human hair, feathers, animal hard tissues, horns, claws, and hooves all contain keratin.. It exists in two form alpha keratin (found in soft tissues) and beta keratin (found in hard tissue). By taking part in the degradation of keratin, keratinases derived from microbial sources, often referred to as microbial keratinases, are important in the process of turning wastes containing keratin into products with added value. Chicken feathers contain high level of keratin protein content than other sources and became a suitable protein source. Keratinase production occurs at near alkaline pH and thermophilic temperatures. The bioprocessing of keratinous waste benefits greatly from the use of keratinases. Additionally, it lessens the issue caused by poultry excrement. The use of feather meal, along with keratinase, improves the digestion of proteins and amino acids.

Keywords : mili litre (ml), micro litre (Ul), TCA - trichloroacetic acid, OD - optical density

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