

# Production and purification of Cellulase enzyme from marine isolates

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### Abstract

Cellulase enzyme has its importance not only industrially but also medically. The present study focuses on the isolation and identification of cellulose degraders from the marine environment. Marine sediments from Central Institute of Fisheries Education were used as samples for the isolation of cellulose degraders. *Bacillus licheniformis* was isolated and identified as the most effective marine cellulose degrader. Further this organism was used for the extraction and purification of the cellulase enzyme by Solid State Fermentation. The cellulase enzyme activity was found to be 129  $\mu\text{moles/ml/min}$ . The enzyme was partially purified using the Aqueous Two Phase method. The obtained enzyme was further used for its various applications. Production of Bioethanol using the cellulase enzyme indicated that cellulase enzyme enhances the production of bioethanol and the other application was the degradation of polymicrobial biofilms using the obtained cellulase enzyme. Medically the cellulase enzyme helps in the treatment of phytobezoars found in the human stomach. This work demonstrates that the marine environment can be a very useful source for the production of the cellulase enzyme which has a very diverse importance not only industrially but also environmentally and medically.

### Biography

Saloni Parekh has completed Masters in Microbiology from Mithibai college, Vile parle. Completed a three month internship at Prince aly Khan hospital (microbiology department). An external lecturer at the Bombay hospital college of nursing for medical microbiology and immunology. Have attended various workshops on Microbiology and Research methodology. Currently a Microbiology technical officer at Suburban diagnostics India Pvt.ltd Central processing Lab.

**Note:** This work is partly presented at Webinar on Clinical Microbiology and Infectious Diseases, going to be held on April 28th, 2021 GMT+1.