

Microbial Enzyme As Therapeutical Approach For The Disease's Targets

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1. Abstract:

Microorganisms produces wide variety of biomolecules, these need to detect and used for specific application. The extremophilic microorganisms have lots of potential to assay the activity as per desired requirement as per applied used. These are used in wide application from environment to water purification, agriculture, pharmaceutic and biotechnology industry. The molecules is used for the various bioconversion in day to life as per human life style. The due to pollution and use of pesticides humans get face challenges to overcome the these diseases. The pesticides is reported one of cause cancer. The present article also emphasizes the daily use of organic foods as per man need. To avoid of plastic in used for storage of drink and food. Again we turned towards the environment for our better sake such as use Ayurvedic plant for treating diseases. The general awareness should be created, for their prolong effect, to environment and health. Natural survivor is having longativity and strength need to identify. We are going away from nature and after that we are finding peace to spend some time with nature. Microbial enzymes such L-Asparaginase, fibrinolytic, these are used for therapeutic purpose, from isolates of an ecosystem.

Key words:

Microbial, extremophiles, therapeutic, biomolecules

2. Introduction:

Enzymes are the functional proteins or nucleic acids (Ribozymes), also known as biocatalysts that facilitate the execution of biochemical reactions at the rates which are suitable for the normal functioning, growth, and

proliferation of any living system, including unicellular or multicellular plants as well as animals (Nelson et al 2008), Mitchell (2017), Brazil et al (2017) The reactions catalysed by enzymes are highly efficient, that is, they occur under ambient environmental conditions, that is, temperature, pH, and pressure. The man made technological up-gradation, is always in the way but some what we are weaken towards our health beaning. As we are adopting the environment of man made. As enzymes are functional outside the cells (or organisms), they are used in a number of industrial applications such as synthesis of pharmaceuticals such as drugs, process grain juices into lager and wine, leaven dough for bread production, production of agrochemicals, artificial Flavors, biopolymers, waste remediation, and many others (Newton et al 2018)

He usage of biocatalysts for pharmaceuticals' production as well as rising interest in the production of chiral intermediates and green synthetic processes has substantiated the interest in the applications of biocatalysts in these fields (Walther et al 2017) Although the applications of enzymes in pharmaceuticals may be vast, the aim of this review is to focus on the prospects of biocatalysts in the manufacturing of APIs, as aids for the production of health supplements, and as enzyme therapy for treatment of a number of diseases. Majority of the industrial enzymes come from microorganisms as they are the most convenient sources, which gives the propensity of faster production, easy scale up, recovery and purification, strain manipulation for over-expression. Active enantiomers of drugs through kinetic resolution, synthesis of enantiomerically pure forms of amino acids (D and L-amino acids) and others. Enzymes have also been used for therapeutic purposes. The some of the enzymes are studies like keratinase (Chitte et al 1999), fibrinolytic its production (Chitte et al 2011), Protease from endophytes are reported (Chitte et al 2016)

3. The isolation of microbial consortia:

The microbes are isolated, from the plant root rhizosphere, specifically root nodules plant. The major consortia screened for the preliminary activity-based isolation. The pure culture and pre-characterization is carried out, for morphology and biochemical tests, regular procedure used for storage and sub-culturing.

4. Activity detection:

The change in the appears towards the dark, indicate the pre-activity evaluation for the further studies

5. Stability studies:

The study indicates the gradual decline in activity and stability need to be

address for optimization of media storage

6. Result and discussion:

The microbes which having various untouched habitats, need to study for detection of various interaction need to study. The research study emphasizes of the difference in interaction in physiological, molecular, biochemical level needs to understand.

7. Conclusion:

The activity and strain producing stability is need to evaluate the stability testing study. The structure and function relationship need to understand. Biochemical basis of the study needed for an isolate for enzyme study for its application in various sector

References:

- Meghwanshi Gautam Kumar. Enzymes for pharmaceutical and therapeutic applications, Biotechnology and Applied Biochemistry.
- Nelson D. L, Lehninger, A. L and Cox, M. M. Lehninger Principles of Biochemistry 5th ed., W.H. Freeman, New York. 2008.
- Mitchell J. B. Curr. Opin. Struct. Biol. 2017;47 :151.
- Brasil B. F, Siqueira F. G, Salum T. F. C, Zanette C. M and Spier, M. R. Algal Res. 2017;25: 76.
- Newton, M. S., Arcus, V. L., Gerth, M. L., and Patrick, W. M. Curr. Opin. Struct. Biol. 2018;48: 110 – 116.
- Walther R, Rautio J and Zelikin, A. N. Adv. Drug Deliv. Rev. 2017;118: 65– 77.
- R.R. Chitte, V.K. Nalawade and S. Dey. Keratinolytic activity from a feather degrading broth of a thermophilic *Streptomyces thermoviolaceus* strain SD8 Letter in Applied Microbiology. 1999;28: 131-136.
- R.R. Chitte, S.V. Deshmukh, P.P. Kanekar. Production, Purification and Biochemical characterization of a fibrinolytic enzyme from thermophilic *Streptomyces* sp. MCMB -379. Applied Biochemistry and Biotechnology. 2011; 165: 1406 –1413.
- Chitte R.R., Date P.K., Patil A.M. Chromatographic methods for isolation and characterization of bioactive molecules from medicinal plant *Mesua ferrea* Linn, Biochemistry and Biotechnology Research. 2016;4 (4): 60-67.