Enzyme Engineering
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Enzyme Engineering
Editorial

Advancements in Enzyme-Engineering scheduled at Dubai city, UAE during October 19, 2020

The carbohydrase segment is projected to dominate the market during the forecast period. Carbohydrases are used in industrial applications, such as textiles & leather, food & beverages, pulp & paper, and biofuel. Carbohydrase is classified into amylase, cellulase, and other carbohydrases, which are used in various applications and microbes are a major source for them. The carbohydrase segment dominated the market, as enzymes named amylase catalyzes the hydrolysis of starch into sugar, which is used for various industrial applications. The demand for specialty enzymes is increasing significantly due to the increasing application of enzymes in the pharmaceutical industry. Pharmaceutical manufacturers are increasingly becoming aware of the incorporation of biocatalysts into the manufacturing process. The increasing usage of enzymes in therapies for diseases, such as cancer, cardiovascular diseases, and lysosomal disorders, is projected to drive the demand

With the aim of accelerating the importance of case studies and reports, Meetings International is organizing Webinar on Enzyme-engineering during October 30th, 2020 in Dubai, UAE with the theme ""TO ENHANCE THE STABILITY OF ENZYMES BY ENZYME ENGINEERING". Scientific session Enzyme Engineering, Genetic Engineering, Genomics & Structural Genomics, Protein Biochemistry, Protein Therapeutics & Market Analysis, Proteomics in Plant & Animal, Structure and Function of Proteins, Transcriptome Analysis & Gene Expression, Antibody Drug Therapy, Applications of Genetics and Protein Engineering

Enzyme-engineering-meeting Webinar has a strong emphasis on support and inspiration for the next generation of scientists, along with early-career researchers, a Young Researchers Forum, and activities to encourage interaction with peers and experts. Altogether this conference aims to be an extraordinary cross discipline gathering in the Enzyme Engineering life sciences for research presentations, discussions, learning's, inspirations and encouragement with participants leaving with new research knowledge and ideas, and perhaps the beginnings of international collaborations and associations.

Enzyme-based biocatalysts have a wide range of industrial applications for production, processing and improving the quality attributes of animal feed, beverages, detergent, food, pharmaceutical and textile products. Microorganisms are the major sources of enzymes but natural enzymes as biocatalysts have limitations such as lower catalytic efficiency at ambient conditions, enzyme denaturation due to inability to withstand the pressure of large-scale industrial fermenters and poor productivity in native microbial cultures. Therefore, to meet their increasing demand at the industrial level, native enzymes are often engineered to work under nonphysiological reactions, to design innovative and efficient enzyme catalyzed pathways, and for the production of novel metabolites. Commonly employed enzyme engineering strategies include directed evolution, site-directed mutagenesis, truncation, and terminal fusion. These powerful and revolutionary techniques of enzyme engineering provide excellent opportunities for tailoring existing enzymes and constructing highly efficient novel industrial enzymes for the cost-effective production of value-added products. The present review highlights the major enzyme engineering strategies and methods to modify and optimize key catalytic properties, structure stabilization and introducing novel features to cater growing requirement of enzyme.

Enzymes are biological catalysts ubiquitous in all life forms allowing chemical reactions to proceed at rates otherwise unachievable. While the indirect use of enzymes may date back to several centuries, use of isolated enzymes with the knowledge of their function is relatively new. While industrial processes depend largely on chemical catalysts, the scenario is gradually changing towards green technologies with enzymes emerging as preferred catalysts for several such processes. Enzymatic catalyses represent potential alternatives to many of the existing processes, but not every one of the current manufacturing processes is amenable to enzymatic catalysis. New routes for synthesis and novel replacement products are in consideration with a large number of them based on enzymatic catalyses. Also there is a renewed interest in developing novel enzyme catalysts tailored for the reactions of interest making use of the modern biotechnological tools for achieving this. The benefits of using enzyme based catalytic technologies are multitude with the processes being more efficient, requiring milder conditions for operation, having better (chemo, regio and enantio) selectivity, non toxic nature, mutual compatibility with other enzymes and biodegradability, in addition to being green and environmentally benign.

The enzymes market is estimated to be valued at USD 10.0 billion in 2019 and is projected to reach USD 14.7 billion by 2025, recording a CAGR of 6.7%, in terms of value. The advancements in enzyme engineering and other technologies have led to the growth of the market. In addition, the depletion of non-renewable resources has led to an increase in environmental concerns among people and the increasing importance of manufacturing biofuels. Factors such as the multifunctional benefits of enzymes

across industries and the reduced consumption of chemicals are contributing to the growth of the global enzyme market.On the basis of geography, Europe holds the second place in the global market in the field of Biochemistry. In Europe countries like UK, France and Germany are possessing good market shares in the field of Enzyme-engineering. Spain and Italy are the emerging market trends for Enzyme-Engineering in Europe.

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For more details, connect to

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