

The Application of Enzymes on Pharmaceutical Products and Process Development

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Abstract : Enzymes are biological molecules that significantly regulate the rate of almost all of the chemical reactions that take place within cells, and have been widely used for products' innovations. They are vital for life and serve a wide range of important functions in the body, such as aiding in digestion and metabolism. The present study was aimed at finding out the extent to which biological molecules have been utilized by pharmaceutical, food and beverage, and biofuel industries in commercial and scale up applications. Taking into account the escalating business opportunities in this vertical, biotech firms have also been penetrating enzymes industry especially that of food. The aim of the study therefore was to find out how biocatalysis can be successfully deployed; how enzyme application can improve industrial processes. To achieve the purpose of the study, the researcher focused on the analytical tools that are critical for the scale up implementation of enzyme immobilization to ascertain the extent of increased product yield at minimum logistical burden and maximum market profitability on the environment and user. The researcher collected data from four pharmaceutical companies located at Anambra state and Imo state of Nigeria. Questionnaire items were distributed to these companies. The researcher equally made a personal observation on the applicability of these biological molecules on innovative Products since there is now shifting trends toward the consumption of healthy and quality food. In conclusion, it was discovered that enzymes have been widely used for products' innovations but there are however variations on their applications. It was also found out that pivotal contenders of enzymes market have lately been making heavy investments in the development of innovative product solutions. It was recommended that the applications of enzymes on innovative products should be widely practiced.

Keywords : enzymes, pharmaceuticals, process development, quality food consumption, scale-up applications

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