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PROGRS REPORT

CCOST Mini research project

"Chemical and enzymatic modification of Non steroid Anti Inflammatory Drugs to overcome their side effects"

Project Investigator **Dr. Lata Sheo Bachan Upadhyay**

The aim and objective of the project was to modified non steroidal anti inflammatory drug by both chemical and enzymatic means. The objective was successfully achieved. Enzymatic method was carried out using lipase isolated from lipolytic bacterial strains immobilized on suitable matrix. The biochemical reaction involved was in the modification was trans-esterification. The reported chemical reagents are costly and not environmentally friendly, and require harsh conditions, and also the yield and enantiomeric excess are poor. There has been an increase in the demand of a green technology and environment friendly techniques for enantiopure drug development in industries. This has led to the adoption of green chemistry in industries in a larger scale. Enzymatic method was found to be equally efficient as chemical process with the advantage of being operated under mild condition of pH and temperature. The system developed for enzymatic trans-esterification was having appreciable shelf life and re-usability. Enzymatic method using lipase was found to be more substrate specific and eco-friendly.

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