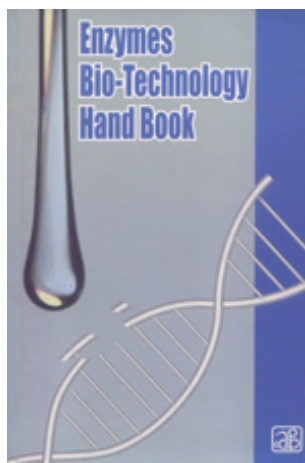


Enzymes Biotechnology Handbook



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Industrial biotechnology is the practice of using cells to generate industrially useful products. An enzyme is a protein that catalyzes, or speeds up, a chemical reaction. Enzymes are the focal point of biotechnological processes, without them biotechnology as a subject would not exist. The main advantage of enzymes compared to most other catalysts is their stereo, region and chemo selectivity and specificity. Enzymes are responsible for many essential biochemical reactions in micro organisms, plants, animals, and human beings. Biotechnology processes may have potential in energy production, specifically in the substitution of renewable plant biomass for fossil feedstock. This will depend on the development of enzymes able to degrade cellulose in plant biomass and designing methods to recycle or dispose of spent biomass. With time, research, and improved protein engineering methods, many enzymes have been genetically modified to be more effective at the desired temperatures, pH, or under other manufacturing conditions typically inhibitory to enzyme activity (e.g. harsh chemicals), making them more suitable and efficient for industrial or home applications. Enzymes are used in the extraction of natural products, as catalysts in organic chemistry, in clinical analysis, in industrial processes, and so on. The application of enzymes is found in many different fields and it is one of the good sectors to venture. In coming few years it is estimated that world enzyme demand will average annual increases of 6.3 percent.

This book basically deals with principles of industrial enzymology, basis of utilization of soluble and immobilized, enzymes in industrial processes, principles of immobilization of enzymes, enzymes in clinical analysis principles, practical aspects of large-scale protein purification, the applications of enzymes in industry, use of enzymes in the extraction of natural products, data on techniques of enzyme immobilization and bio affinity procedures etc.

In this book you can find all the basic information required on the fundamental aspects of the enzymes, their chemistry, bio chemistry as well as detailed information of their applications a wide variety of industrial processes etc. The book is very useful for research scholars, technocrats, institutional libraries and entrepreneurs who want to enter into the field of manufacturing of enzymes.

Contents

1. LARGE-SCALE EXTRACTION AND PURIFICATION OF ENZYMES AND OTHER PROTEINS

Extraction by Chemical Methods

Alkali

Lysozyme and EDTA

Detergents

Cold Shock

Osmotic Shock

Extraction by Physical Methods

Sonication

Freezing and Thawing

Solid Shear

Grinding or Agitation with Abrasives

Liquid Shear

Isolation and Purification

Nucleic Acid Removal

Cetyltrimethyl Ammonium Bromide

Streptomycin Sulphate

Polyethyleneimine

Nuclease Treatment

Concentration by Precipitation

Ammonium Sulphate

Organic Solvents

High Molecular Weight Polymers

Concentration by Ultrafiltration

Concentration by Freeze-Drying

Gel Chromatography

Ion Exchange Chromatography

Ion Exchange Resins

Ion Exchange Celluloses

Other Ion Exchange Gels

Affinity Chromatography

Coupling Techniques

Non-Specific Adsorbents

Hydroxyapatite

Celite

Hydrophobic Interaction Chromatography

High Performance Liquid Chromatography

Electrophoretic Techniques

Electrophoresis.

Isoelectric Focusing

Multimembrane Electrodecantation

Chromatofocusing

Aqueous Two-Phase Separation

2. PRINCIPLES OF INDUSTRIAL ENZYMOLOGY: BASIS OF UTILIZATION OF SOLUBLE AND IMMOBILIZED

ENZYMES IN INDUSTRIAL PROCESSES

Glossary of Symbols

Assay of Enzyme Activity

Cofactors

The Distinctive Features of Enzymes as Catalysts

Enzyme Catalysis

Enzyme Kinetics

The Effect of pH on Enzyme Activity

The Effect of Temperature on Enzyme Activity

Enzyme Inhibition
 The Various Types of Enzymic Catalyst
 A Comparison of Enzymes with Chemical Catalysts
 A Comparison of Enzymes with Fermentations
 Immobilized Biocatalysts
 A Comparison of Immobilized Enzymes and Cells
 An Assessment of Immobilization Supports and Methods
 Characterisation of Immobilized Biocatalysts
 Co-Immobilized Enzymes
 Two-Phase Reaction
 Industrial Enzyme Kinetic
 Effects on Equilibria
 Effectiveness Factors
 Steady - State Kinetics
 Intrinsic Activity of Enzymes - Modifying Factors
 Introduction
 Diffusional Limitations on the Activity of Immobilized
 Biocatalysts
 External Diffusional Limitations
 Internal Diffusional Restrictions
 Regeneration of Cofactors
 Biochemical Reactors
 Introduction
 The Various Types of Biochemical Reactor
 Assessment of the Performance of Biochemical Reactors
 Batch Reactors
 Continuous Stirred Tank Reactors
 Plug-flow Column Reactors (or Tubular Reactors)
 Fluidized Bed Reactors
 Electrochemical Reactors
 Ultrafiltration Reactors
 Enzyme Kinetic in Reactors
 Inhibition in Enzyme Reactors
 The Effect of Non-Ideal Flow on Biochemical
 Reactor Performance
 Physical Problems in Biochemical Reactor using
 Immobilized Biocatalysts
 Abrasion
 Compression
 Fouling
 Microbial Contamination
 The Stability of Immobilized Biocatalysts
 Introduction
 The Stability of Biochemical Reactors Employing
 Immobilized Enzymes or Immobilized Cells
 Regeneration of Biocatalyst Activities
 Constant Productivity with Biocatalyst Reactors
 Scale-Up
 Discussion
3. PRINCIPLES OF IMMOBILIZATION OF ENZYMES
 Classification of Immobilized Enzymes
 Techniques of Enzyme Immobilization
 Entrapment

Gel Entrapment
Fibre Entrapment
Micro-encapsulation
Carrier Binding
Physical Adsorption
Ionic Binding Method
Chelation or Metal Binding
Covalent Binding
Crosslinking
Immobilized Soluble Enzymes
Immobilization without Enzyme Derivativization
Immobilization with Enzyme Derivativization
Miscellaneous Methods
Choice of Immobilization Method
Outline of Properties of Immobilized Enzymes
Stability
Kinetic Properties
Outline of Enzyme Reactors
Batch Reactors
Continuous Reactors
Application and Future Trends
Analytical Applications
Enzyme Electrodes
Automated Analysis
Therapeutic Applications
Enzyme Replacement
Enzyme Therapy
Industrial Applications
Future Trends

4. ENZYMES IN CLINICAL ANALYSIS - PRINCIPLES

Measurement of Substrate Concentration with Enzymes
Principles of Equilibrium Methods
Principles of Kinetic Methods
Comparison of Equilibrium and Kinetic Methods
Common Indicator Species Used in Routine Clinical Analysis
Nicotinamide Adenine Dinucleotides
Oxygen and Hydrogen Peroxide
Measurement of Enzymes
Principles of Enzyme Assay Using Coupled Enzymes
Immobilized Enzymes for Measuring Substrate Concentrations
Immobilized Enzyme Reactor Tubes
Bioanalytical Probes
Dry Reagent Chemistry
Enzyme Immunoassay (ELA)
Preparation of Enzyme Labels
Homogeneous EIA
Heterogeneous EIA
Choice of Enzyme Label
Assay in EIA
Simultaneous Assay of Two Haptens
The Future

5. PRACTICAL ASPECTS OF LARGE-SCALE PROTEIN

PURIFICATION

Enzyme Inactivation

Containers and Ancillary Equipment

Glass Vessels

Metal Vessels

Plastic Vessels

Liquid Transfer

Couplings

Pumps

Bacterial Disruption

Resuspension

Liquid Shear

Grinding

Centrifugation

Batch Centrifuges

Continuous Flow Centrifuges

Disc Type Centrifuge

Hollow Bowl Centrifuges

Basket Centrifuges

Tangential Flow Filtration

Concentration

Ultrafiltration

Stirred Cells

Thin Channel Systems

Cartridge Membranes

Hollow Fibres

Dialysis

Chromatography

1 Columns

Gel Chromatography

Ion Exchange Chromatography

Affinity Chromatography

6. THE APPLICATIONS OF ENZYMES IN INDUSTRY

Glossary of Terms

Production of Enzymes

Use of Enzyme - General Comments

The Characteristics of Industrial Enzymes

Sources of Enzymes

The Isolation, Purification and Formulation of Enzymes

Legislation on the Use of Enzymes

Enzyme Manufacturers

Biochemical Applications

Use of Enzymes in Analysis

General

In Clinical Assays

Medical Uses of Enzymes

The Use of Enzymes as Catalysts in Organic Chemistry

Introduction

Stereospecificity of Enzymes

Prochiral Stereospecificity

Combinations of Stereospecificity

Multiple-Step Reactions

Synthesis of Radioactive Compounds

Restriction Endonucleases
Biochemical Processing
Applications of Enzymes in the Food Industry
Polysaccharide Processing
Bacterial -amylase
Amyglucosidase (EC 3.2.1.3)
Maltose Syrups
Glucose Isomerase (EC 53.1.5)
Inversion of Sucrose
Sugar Refining
Raffinase
a-amylase
Dextranase (EC3.2.1.11)
Debranching Enzymes
Cyclodextrin Glucosyltransferase and Other Amylases
Cellulase (EC3.2.1.4)
Ethanol Fermentation
Brewing
Baking
The Dairy Industry
Lactose Hydrolysis
Cheese Manufacture
Coagulation
Flavour Development
Other Applications
Organic Acids
Amino Acids
Introduction
Enzymic Resolution
Enzymic Production of Amino Acids
Antioxidant
Introduction
Glucose Oxidase (EC 1.1.3.4)
Protein Processing
Introduction
The Plastein Reaction
Aspartame
Others
Flavouring Agents
Fruit Processing
Use of Enzymes in the Extraction of Natural Products
Detoxifying Enzymes
Enzyme-Based Detergents
Use of Enzymes as Cleansing Agents
The Leather Industry
Textiles
Paper Manufacture
Antibiotics
Penicillin Acylase, (EC 3.5.1.11)
Cephalosporins
Miscellaneous uses of Biocatalysts
Conclusion
Note in Proff

Acrylamide
Propylene Oxide
Vinyl Chloride
Biosensors
Amino Acids
7. DATA ON TECHNIQUES OF ENZYME IMMOBILIZATION
AND BIOAFFINITY PROCEDURES
Entrapment
Gel Entrapment
Fibre Entrapment
Microencapsulation
Phase Separation Method
Interfacial Polymerization Method
Liquid Surfactant Membrane Method
Liquid Drying Method
Chelation or Metal Binding
Covalent Binding
Diazotization
Amide Bond Formation
Acid Anhydride Derivatives
Acylazide Derivatives
Cyclic Imidocarbonate Derivatives
Isocyanate and Isothiocyanate Derivatives
Acyl Chloride Derivatives
Cyclic Carbonate Derivatives
Condensing Reagents
Alkylation and Arylation
Schiff's Base Formation
Ugi Reaction
Amidation Reactions
Thiol-Disulphide Interchange
Mercury-Enzyme Interactions
-Irradiation Induced Coupling
Matrices for Carrier Binding
Inorganic Supports
Controlled Pore Supports
Other Porous Supports
Non-porous supports
Coupling Reactions for Inorganic Supports
Organic Supports
Polysaccharides
Proteins
Carbon
Polystyrenes
Polyacrylates
Maleic Anhydride Based Copolymers
Polypeptides
Vinyl and Allyl Polymers
Polyamides
Crosslinking
Immobilized Cells
Entrapment
Physical Adsorption

Chelation or Metal Binding
Covalent Binding
Crosslinking
Other Immobilized Biologically Active Molecules
Immunoabsorbents
Affinity Chromatography Media
Immobilized Lactins
Immobilized Amino Acids and Peptides
Immobilized Carbohydrates
Immobilized Nucleosides, Nucleotides and Nucleic Acids
Immobilized Antibiotics
8. ENZYMES IN CLINICAL ANALYSES - DATA
Substrates Measured Enzymically in Clinical Laboratories
Enzymes Measured by Coupled Enzyme System in
Clinical Laboratories
Immobilized Enzymes for Measuring Substrates
Enzymes Used in Enzyme Immunoassay (EIA)

About NIIR

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