

# **Enzymes Market by Type (Proteases, Carbohydrases, Lipases, Polymerases & nucleases), Reaction Type (Hydrolases, Oxidoreductases, Transferases, Lyases) and Source (Microorganisms, Animals, Plants) - Global Opportunity Analysis and Industry Forecast, 2014 - 2020**

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## **Abstracts**

Enzymes have gathered a special attention in the recent years due to its potential application in the several industries such as food & animal feed, textiles and Surfactants, pharmaceuticals & biotechnology R&D and manufacturing and others (paper and pulp processing, leather processing and agriculture). Enzymes are the proteins that act as biocatalysts to accelerate the reaction and produce the desired results in reactions. The use of enzymes in the manufacturing process, results in significant cost reductions due to limited energy (temperature) consumption, and better substrate activity.

The enzymes are widely used in detergents industry, to facilitate the removal of stains from clothes. They are also used in food and beverages industry in wide range of preparations such as baking. In pharmaceutical industry, the enzymes are used for the drug formulation. Such enzyme based pharmaceutical drugs are used for the treatment of conditions such as cancer and AIDS. Enzymes are also been widely used in the biotechnology industry for the research, particularly in the molecular biology. They are used in genetic engineering techniques in order to cut, replicate and attach DNA as per the requirement. Enzymes play major role in the diagnosis of diseases such as cancer, cardiovascular diseases and lysosomal disorder.

The increasing use of functional food and beverages (which contain enzymes), increasing demand for cellulosic and amylase biofuels along with effective pharmaceuticals & cosmetics, are some of the key factors that drive the growth of the

global enzymes market during the analysis period. Furthermore, the increasing adoption of technology such as protein engineering is significantly fueling the demand for the enzyme market. Factors restraining the market growth are high sensitivity of enzymes to temperature and pH and risk of contamination.

The global enzymes market is segmented based on the application, source, type, reaction type and geography. Based on the applications, the market is segmented into food and beverages, household care, bioenergy, pharmaceutical and biotechnology, feed and others. Based on the source, the market is segmented into three types namely microorganisms, animals and plants. Microorganism segment holds the dominant share in the market due to its easy availability, feasibility for large scale production and cost-effectiveness. Based on the product type, the market is segmented into proteases, carbohydrases, lipases, polymerases & nucleases and others. Based on the reaction type, the market is segmented into hydrolases, oxidoreductases, transferases, lyases and others.

Geographically, the global enzyme market is segmented into North America, Europe, Asia-Pacific and LAMEA. North American market is the largest market for the enzymes due to the availability of large manufacturing base and favorable government policies. However, the manufacturing base of almost all sectors such as pharmaceutical and biotechnology sector (diagnostics, drug development, clinical research and as bio-catalysts), food & animal feed, textiles, detergents, agriculture, pulp/paper processing, and leather processing is gradually shifting to the Asia-Pacific region making it more lucrative. The key companies profiled in this report includes Novozymes, DuPont, Roche Holdings AG, BASF, Life technologies, Advance enzyme Technologies Ltd, Affymetrix Inc, and Codexis Inc.

#### KEY MARKET BENEFITS:

The report provides a quantitative analysis of the current market estimations through 2014-2020, which would enable the stakeholders to capitalize on prevailing market opportunities

Extensive analysis of the global enzymes market by type helps in understanding the types of enzymes that are currently used along with the variants that would gain prominence in future

Competitive intelligence highlights the business practices followed by leading market players across various geographies

Comprehensive analysis of factors that drive and restrict the growth of the global

enzymes market is provided

SWOT analysis highlights the internal environment of leading companies for effective strategy formulation

The global enzymes market scenario is comprehensively analyzed in accordance to the key regions

## **KEY MARKET SEGMENTS:THE GLOBAL ENZYMES MARKET IS SEGMENTED AS BELOW:**

### Global Enzymes Market By Application

Food and Beverages

Household Care

Bioenergy

Pharmaceutical and Biotechnology

Feed

Others

### Global Enzymes Market By Source

Microorganisms

Animals

Plants

### Global Enzymes Market By Type

Proteases

Carbohydrases

Lipases

Polymerases & nucleases

Others

#### Global Enzymes Market By Reaction Type

Hydrolases

Oxidoreductases

Transferases

Lyases

Others

#### Global Enzymes Market By Geography

North America

Europe

Asia Pacific

LAMEA

## Contents

### **CHAPTER: 1 INTRODUCTION**

- 1.1 Report description
- 1.2 Key benefits
- 1.3 Key market segments
- 1.4 Research Methodology
  - 1.4.1 Primary research
  - 1.4.2 Secondary research
  - 1.4.3 Analyst tools and models

### **CHAPTER: 2 EXECUTIVE SUMMARY**

- 2.1 CXO perspective
- 2.2 Market beyond what to expect by 2025 (\$Million)
  - 2.2.1 Moderate growth scenario
  - 2.2.2 Rapid growth scenario
  - 2.2.3 Diminishing growth scenario

### **CHAPTER: 3 MARKET OVERVIEW**

- 3.1 Market definition and scope
- 3.2 Enzyme extraction processes
  - 3.2.1 Filtration
  - 3.2.2 Centrifugation and sedimentation:
  - 3.2.3 Purification:
- 3.3 Key findings
  - 3.3.1 Top impacting factors
  - 3.3.2 Top investment pockets
  - 3.3.3 Top winning strategies
- 3.4 Government regulations
- 3.5 Value chain analysis
  - 3.5.1 Primary Activities
  - 3.5.2 Supportive Activities
- 3.6 Market share analysis, 2014
- 3.7 Clinical trials
- 3.8 Patent analysis (2010-2014)
  - 3.8.1 Patent analysis by geographies (2010-2014)

- 3.8.2 Patent analysis by sub segment (2010-2014)
- 3.9 Market dynamics
  - 3.9.1 Drivers
  - 3.9.2 Restraints
  - 3.9.3 Opportunities

## **CHAPTER: 4 GLOBAL ENZYMES MARKET, BY APPLICATION 2014-2020**

- 4.1 Food and Beverages
  - 4.1.1 Key market trends
  - 4.1.2 Market growth factors and opportunities
  - 4.1.3 Market size and forecast
- 4.2 Household Care
  - 4.2.1 Key market trends
  - 4.2.2 Key growth factors and opportunities
  - 4.2.3 Market size and forecast
- 4.3 Bioenergy
  - 4.3.1 Key market trends
  - 4.3.2 Key growth factors and opportunities
  - 4.3.3 Market size and forecast
- 4.4 Pharmaceutical and Biotechnology
  - 4.4.1 Key market trends
  - 4.4.2 Key growth factors and opportunities
  - 4.4.3 Market size and forecast
- 4.5 Feed
  - 4.5.1 Key market trends
  - 4.5.2 Key growth factors and opportunities
  - 4.5.3 Market size and forecast
- 4.6 Others
  - 4.6.1 Key market trends
  - 4.6.2 Key growth factors and opportunities
  - 4.6.3 Market size and forecast

## **CHAPTER: 5 GLOBAL ENZYMES MARKET BY SOURCE, 2014-2020**

- 5.1 Microorganisms
  - 5.1.1 Key market trends
  - 5.1.2 Key growth factors and opportunities
  - 5.1.3 Market size and forecast

## 5.2 Plants

- 5.2.1 Key market trends
- 5.2.2 Key growth factors and opportunities
- 5.2.3 Market size and forecast

## 5.3 Animal

- 5.3.1 Key market trends
- 5.3.2 Key growth factors and opportunities
- 5.3.3 Market size and forecast

## **CHAPTER: 6 GLOBAL ENZYMES MARKET BY TYPE, 2014-2020**

### 6.1 Carbohydrase

- 6.1.1 Key market trends
- 6.1.2 Key growth factors and opportunities
- 6.1.3 Market size and forecast

### 6.2 Protease

- 6.2.1 Key market trends
- 6.2.2 Key growth factors and opportunities
- 6.2.3 Market size and forecast

### 6.3 Polymerases and Nucleases

- 6.3.1 Key market trends
- 6.3.2 Key growth factors and opportunities
- 6.3.3 Market size and forecast

### 6.4 Lipase

- 6.4.1 Key market trends
- 6.4.2 Key growth factors and opportunities
- 6.4.3 Market size and forecast

### 6.5 Others

- 6.5.1 Key market trends
- 6.5.2 Key growth factors and opportunities
- 6.5.3 Market size and forecast

## **CHAPTER: 7 GLOBAL ENZYMES MARKET BY REACTION TYPE, 2014-2020**

### 7.1 Hydrolases

- 7.1.1 Key market trends
- 7.1.2 Market size and forecast

### 7.2 Oxidoreductases

- 7.2.1 Key market trends

- 7.2.2 Market size and forecast
- 7.3 Transferases
  - 7.3.1 Key market trends
  - 7.3.2 Market size and forecast
- 7.4 Lyases
  - 7.4.1 Key market trends
  - 7.4.2 Market size and forecast
- 7.5 Others
  - 7.5.1 Key market trends
  - 7.5.2 Market size and forecast

## **CHAPTER: 8 GLOBAL ENZYMES MARKET BY GEOGRAPHY, 2014-2020**

- 8.1 Overview
  - 8.1.1 Market size and forecast
- 8.2 North America
  - 8.2.1 Key market trends
  - 8.2.2 Competitive scenario
  - 8.2.3 Key growth factors and opportunities
  - 8.2.4 Market size and forecast
- 8.3 Europe
  - 8.3.1 Key market trends
  - 8.3.2 Competitive scenario
  - 8.3.3 Key growth factors and opportunities
  - 8.3.4 Market size and forecast
- 8.4 Asia-Pacific
  - 8.4.1 Key market trends
  - 8.4.2 Competitive scenario
  - 8.4.3 Key growth factors and opportunities
  - 8.4.4 Market size and forecast
- 8.5 LAMEA
  - 8.5.1 Key market trends
  - 8.5.2 Competitive scenario
  - 8.5.3 Key growth factors and opportunities
  - 8.5.4 Market size and forecast

## **CHAPTER: 9 COMPANY PROFILES**

- 9.1 Roche Holding AG



- 9.1.1 Overview
- 9.1.2 Company snapshot of Roche Holding Ag
- 9.1.3 Financial performance of Roche Holding Ag.
- 9.1.4 Strategic moves and developments
- 9.1.5 SWOT analysis of Roche Holding Ag.
- 9.2 Sanofi S.A.
  - 9.2.1 Overview
  - 9.2.2 Company snapshot Sanofi S.A.
  - 9.2.3 Financial performance
  - 9.2.4 Strategic moves and developments
  - 9.2.5 SWOT analysis of Sanofi SA
- 9.3 BASF
  - 9.3.1 Overview
  - 9.3.2 Company snapshot
  - 9.3.3 Financial performance
  - 9.3.4 Strategic moves and developments
  - 9.3.5 SWOT analysis of BASF
- 9.4 Advanced Enzyme Technology Ltd.
  - 9.4.1 Overview
  - 9.4.2 Company snapshot
  - 9.4.3 Financial performance
  - 9.4.4 Strategic moves and developments
  - 9.4.5 SWOT analysis of Advanced Enzymes Technologies
- 9.5 BBI Enzymes Ltd.
  - 9.5.1 Overview
  - 9.5.2 Company snapshot.
  - 9.5.3 Strategic moves and developments
  - 9.5.4 SWOT analysis
- 9.6 Affymetrix Inc.
  - 9.6.1 Overview
  - 9.6.2 Company snapshot
  - 9.6.3 Financial performance
  - 9.6.4 Strategic moves and developments
  - 9.6.5 SWOT analysis
- 9.7 Codexis Inc.
  - 9.7.1 Overview
  - 9.7.2 Company snapshot
  - 9.7.3 Financial performance
  - 9.7.4 Strategic moves and developments

9.7.5 SWOT analysis.

## 9.8 Novozymes

9.8.1 Overview

9.8.2 Company snapshot

9.8.3 Financial performance

9.8.4 Strategic moves and developments

9.8.5 SWOT analysis

## 9.9 DuPont

9.9.1 DuPont Overview

9.9.2 Company snapshot

9.9.3 Financial performance

9.9.4 Strategic moves and developments

9.9.5 Swot analysis

## 9.10 AB Enzymes

9.10.1 Ab Enzymes Overview

9.10.2 Company snapshot

9.10.3 Strategic moves and developments

9.10.4 Swot analysis

## List Of Tables

### LIST OF TABLES

TABLE 1 MODERATE GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

TABLE 2 RAPID GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

TABLE 3 DIMINISHING GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

TABLE 4 CLINICAL TRIALS

TABLE 5 TYPES OF ENZYMES AND ITS APPLICATION

TABLE 6 ENZYMES GRADE SYSTEM

TABLE 7 GLOBAL ENZYMES MARKET, BY APPLICATION, 2014-2020

TABLE 8 GLOBAL FOOD AND BEVERAGES ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 9 GLOBAL HOUSEHOLD CARE ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 10 GLOBAL BIOENERGY ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 11 GLOBAL PHARMACEUTICAL AND BIOTECHNOLOGY ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 12 GLOBAL FEED ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 13 GLOBAL OTHER ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 14 GLOBAL ENZYMES MARKET, BY SOURCE, 2014-2020

TABLE 15 TYPES OF COMMERCIAL ENZYMES AND ITS SOURCE STABLE GLOBAL MICROORGANISM DERIVED ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 17 GLOBAL PLANT-DERIVED ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 18 GLOBAL ANIMAL-DERIVED ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 19 GLOBAL ENZYMES MARKET, BY TYPES, 2014-2020

TABLE 20 GLOBAL CARBOHYDRASE ENZYME MARKET, BY GEOGRAPHY, 2014-2020

TABLE 21 GLOBAL PROTEASE ENZYME MARKET, BY GEOGRAPHY, 2014-2020

TABLE 22 GLOBAL POLYMERASE AND NUCLEASE ENZYME MARKET, BY GEOGRAPHY, 2014-2020

TABLE 23 GLOBAL LIPASE ENZYME MARKET, BY GEOGRAPHY, 2014-2020

TABLE 24 GLOBAL OTHER ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 25 GLOBAL ENZYMES MARKET, BY REACTION TYPE, 2014-2020

TABLE 26 GLOBAL HYDROLASES ENZYMES MARKET, BY GEOGRAPHY,  
2014-2020

TABLE 27 GLOBAL OXIDOREDUCTASES ENZYMES MARKET, BY GEOGRAPHY,  
2014-2020

TABLE 28 GLOBAL TRANSFERASES ENZYMES MARKET, BY GEOGRAPHY,  
2014-2020

TABLE 29 GLOBAL LYASES ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 30 GLOBAL OTHER ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 31 GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2014-2020

TABLE 32 NORTH AMERICA ENZYMES MARKET, BY APPLICATIONS, 2014-2020

TABLE 33 EUROPE ENZYMES MARKET, BY APPLICATION, 2014-2020

TABLE 34 ASIA-PACIFIC ENZYMES MARKET, BY APPLICATION, 2014-2020

TABLE 35 LAMEA ENZYMES MARKET, BY APPLICATION, 2014-2020

TABLE 36 COMPANY SNAPSHOT

TABLE 37 COMPANY SNAPSHOT

TABLE 38 COMPANY SNAPSHOT

TABLE 39 COMPANY SNAPSHOT

TABLE 40 COMPANY SNAPSHOT

TABLE 41 COMPANY SNAPSHOT

TABLE 42 COMPANY SNAPSHOT

TABLE 43 COMPANY SNAPSHOT

TABLE 44 COMPANY SNAPSHOT

TABLE 45 COMPANY SNAPSHOT

## List Of Figures

### LIST OF FIGURES

FIG. 1 MODERATE GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

FIG. 2 RAPID GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

FIG. 3 DIMINISHING GROWTH SCENARIO OF GLOBAL ENZYMES MARKET, BY GEOGRAPHY, 2020-2025

FIG. 4 ENZYME PURIFICATION PROCESS

FIG. 5 TOP FACTORS IMPACTING GLOBAL ENZYMES MARKET, 2014-2020

FIG. 6 TOP INVESTMENT POCKETS OF GLOBAL ENZYMES MARKET, 2014-2020

FIG. 7 TOP WINNING STRATEGIES IN GLOBAL ENZYMES MARKET, 2010-2014

FIG. 8 VALUE CHAIN FOR ENZYMES INDUSTRY

FIG. 10 PATENT ANALYSIS, BY GEOGRAPHIES, 2010-2014

FIG. 11 PATENT ANALYSIS, BY SUB SEGMENT

FIG. 12 F. HOFFMANN-LA ROCHE AG REVENUE BY SEGMENT (2014)

FIG. 13 F. HOFFMANN-LA ROCHE AG REVENUE BY REGION (2014)

FIG. 14 SWOT ANALYSIS OF F. HOFFMANN-LA ROCHE AG

FIG. 15 SANOFI REVENUE BY BUSINESS SEGMENTS (2014)

FIG. 16 SWOT ANALYSIS OF SANOFI S.A.

FIG. 17 BASF REVENUE BY GEOGRAPHY (2014)

FIG. 18 BASF REVENUE BY SEGMENTS (2014)

FIG. 19 SWOT ANALYSIS OF BASF

FIG. 20 ADVANCED ENZYMES TECHNOLOGIES REVENUE, 2011-2013

FIG. 21 ADVANCED ENZYMES TECHNOLOGIES REVENUE BY GEOGRAPHY

FIG. 22 SWOT ANALYSIS OF ADVANCED ENZYMES TECHNOLOGIES

FIG. 23 SWOT ANALYSIS OF BBI ENZYMES LTD.

FIG. 24 AFFYMETRIX REVENUE, 2012-2014

FIG. 25 SWOT ANALYSIS OF AFFYMETRIX

FIG. 26 CODEXIS REVENUE, 2012-2014

FIG. 27 SWOT ANALYSIS OF CODEXIS, INC.

FIG. 28 NOVOZYMES REVENUE, 2012-2014

FIG. 29 NOVOZYMES REVENUE, BY SEGMENT

FIG. 30 NOVOZYMES REVENUE, BY GEOGRAPHY

FIG. 31 SWOT ANALYSIS OF NOVOZYMES

FIG. 32 FINANCIAL REVENUE OF DUPONT, BY BUSINESS SEGMENT (2014)

FIG. 33 SWOT ANALYSIS OF DUPONT

## FIG. 34 SWOT ANALYSIS OF AB ENZYMES

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