

North America Enzymatic DNA Synthesis Market Forecast to 2028 – COVID-19 Impact and Regional Analysis – by Product Type (Custom DNA Synthesis and DNA Library Synthesis), Application (Synthetic Biology, Genetic Engineering, Therapeutic Antibodies, Vaccine Design, and Others), and End User (Academic & Research Institutes, Biotech & Pharmaceutical Companies, Diagnostic Laboratories, and Others)

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Abstracts

The North America enzymatic DNA synthesis market is expected to grow from US\$ 110.43 million in 2022 to US\$ 1,011.32 million by 2028. It is estimated to register a CAGR of 44.6% from 2022 to 2028.

Rising Prevalence of Genetic Disorders Drives North America Enzymatic DNA Synthesis Market Growth

Down syndrome, autism spectrum disorder, cancer, diabetes, cystic fibrosis, and sickle cell anemia are a few of the commonly known genetic disorders. Per the Global Genes, more than 10,000 different genetic and rare diseases have been identified, and ~400 million people suffer from rare diseases. Some genetic disorders cause symptoms at birth, while others develop over time. The global burden of genetic diseases appears to be increasing. According to the National Center for Biotechnology Information (NCBI), a US-based medical organization, as of November 2021, genetic disorders were identified in 9.4% of pediatric patients, with 44.7% being critically ill newborns. In addition, 13.17 million patients in the US suffer from unique genetic disorders. According to the Centers for Disease Control and Prevention (CDC) 2022 report, sickle cell disease affects



~100,000 Americans, and it occurs in 1 in 356 African American births. Cystic fibrosis, another common genetic disease worldwide, affects ~30,000 US citizens, and ~1,000 new cases are treated annually. Enzymatic DNA synthesis is a well-established DNA synthesis technique useful in synthetic biology, genetic engineering, and therapeutic antibody studies. In conjunction with enzymatic assays, DNA synthesis shows greater diagnostic possibilities. This method provides important information about people at risk and helps them make important decisions regarding disease diagnosis and medication. Hence, with the rising prevalence of genetic disorders across the world, people are becoming aware of the need for the early detection of these genetic flaws, which propels the growth of the North America enzymatic DNA synthesis market.

North America Enzymatic DNA Synthesis Market Overview

The US holds a significant share of the North America enzymatic DNA synthesis market. Companies in the US are focusing on developing products to improve DNA synthesis procedures. In January 2022, the synthetic DNA maker Twist Bioscience announced that it is developing enzymatic DNA synthesis technology. In 2020, Molecular Assemblies partnered with Codexis to increase their speed to market and raise new funding. According to Molecular Assemblies, use of funds will entail commercializing the Company's "Fully Enzymatic Synthesis" (FES) platform, which uses aqueous, nontoxic reagents and requires minimal post-synthesis purification and processing.

According to the National Center for Biotechnology Information (NCBI), ?13.2 million patients in the US suffer from unique genetic disorders. There are many genetic disorders, namely down-syndrome, autism spectrum disorder, cancer, diabetes, cystic fibrosis, and sickle cell anemia. The prevalence of genetic disorders drives the growth of the North America enzymatic DNA synthesis market.

North America Enzymatic DNA Synthesis Market Revenue and Forecast to 2028 (US\$ Million)

North America Enzymatic DNA Synthesis Market Segmentation

The North America enzymatic DNA synthesis market is segmented on the basis of product type, application, end user, and country.

Based on product type, the North America enzymatic DNA synthesis market is



bifurcated into custom DNA synthesis and DNA library synthesis. In 2022, the DNA library synthesis segment registered a larger market share.

Based on application, the North America enzymatic DNA synthesis market is segmented into synthetic biology, genetic engineering, therapeutic antibodies, vaccine design, and others. In 2022, the synthetic biology segment registered the largest market share.

Based on end user, the North America enzymatic DNA synthesis market is segmented into academic & research institutes, biotech & pharmaceutical companies, diagnostic laboratories, and others. In 2022, the biotech & pharmaceutical companies segment held the largest market share.

Based on country, the North America enzymatic DNA synthesis market is segmented into the US, Canada, and Mexico. In 2022, the US held the largest market share.

Ansa Biotechnologies, Inc.; Camena Bio; DNA Script; GenScript Biotech Corporation; Molecular Assemblies; Synbio Technologies; Telesis Bio Inc; Touchlight; and Twist Bioscience are among the leading companies operating in the North America enzymatic DNA synthesis market.



Contents

1. INTRODUCTION

- 1.1 Scope of the Study
- 1.2 The Insight Partners Research Report Guidance
- 1.3 Market Segmentation
- 1.3.1 North America Enzymatic DNA Synthesis Market by Product Type
- 1.3.2 North America Enzymatic DNA Synthesis Market by Application
- 1.3.3 North America Enzymatic DNA Synthesis Market by End User
- 1.3.4 North America Enzymatic DNA Synthesis Market by Country

2. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – KEY TAKEAWAYS

3. RESEARCH METHODOLOGY

- 3.1 Coverage
- 3.2 Secondary Research
- 3.3 Primary Research

4. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – MARKET LANDSCAPE

- 4.1 Overview
- 4.2 North America PEST Analysis
- 4.3 Expert's Opinion

5. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – KEY MARKET DYNAMICS

- 5.1 Market Drivers
- 5.1.1 Rising Prevalence of Genetic Disorders
- 5.1.2 Surging Number of Product Launches
- 5.2 Market Restraints
- 5.2.1 High Costs and Complex Procedures
- 5.3 Market Opportunities
- 5.3.1 Growing Demand for Enzymatic DNA Synthesis Procedure
- 5.4 Future Trends

North America Enzymatic DNA Synthesis Market Forecast to 2028 - COVID-19 Impact and Regional Analysis - by Pro...



5.4.1 Growing Demand for Personalized Medicine and DNA Data Storage 5.5 Impact Analysis

6. ENZYMATIC DNA SYNTHESIS MARKET – NORTH AMERICA ANALYSIS

6.1 North America Enzymatic DNA Synthesis Market Revenue Forecast and Analysis

7. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – BY PRODUCT TYPE

7.1 Overview

7.2 North America Enzymatic DNA Synthesis Market Revenue Share, by Product Type 2021 & 2028 (%)

7.3 Custom DNA Synthesis

7.3.1 Overview

7.3.2 Custom DNA Synthesis: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

7.4 DNA Library Synthesis

7.4.1 Overview

7.4.2 DNA Library Synthesis: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

8. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET ANALYSIS AND FORECASTS TO 2028 – BY APPLICATION

8.1 Overview

8.2 North America Enzymatic DNA Synthesis Market, by Application 2021 & 2028 (%)

8.3 Synthetic Biology

8.3.1 Overview

8.3.2 Synthetic Biology: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

8.4 Genetic Engineering

8.4.1 Overview

8.4.2 Genetic Engineering: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

8.5 Therapeutic Antibodies

8.5.1 Overview

8.5.2 Therapeutic Antibodies: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)



8.6 Vaccine Design

8.6.1 Overview

8.6.2 Vaccine Design: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

8.7 Others

8.7.1 Overview

8.7.2 Others: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

9. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – BY END USER

9.1 Overview

9.2 North America Enzymatic DNA Synthesis Market Revenue Share, by End User 2021 & 2028 (%)

9.3 Academic and Research Institutes

9.3.1 Overview

9.3.2 Academic and Research Institutes: North America Enzymatic DNA Synthesis

Market – Revenue and Forecast to 2028 (US\$ Million)

- 9.4 Biotech and Pharmaceutical Companies
- 9.4.1 Overview

9.4.2 Biotech and Pharmaceutical Companies: North America Enzymatic DNA

Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

9.5 Diagnostic Laboratories

9.5.1 Overview

9.5.2 Diagnostic Laboratories: North America Enzymatic DNA Synthesis Market -

Revenue and Forecast to 2028 (US\$ Million)

9.6 Others

9.6.1 Overview

9.6.2 Others: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – COUNTRY ANALYSIS

10.1 North America: Enzymatic DNA Synthesis Market

10.1.1 Overview

10.1.2 North America: Enzymatic DNA Synthesis Market, by Country, 2021 & 2028 (%) 10.1.2.1 US: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$



Million)

10.1.2.1.1 Overview

10.1.2.1.2 US: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.2.1.3 US: Enzymatic DNA Synthesis Market, by Product Type, 2019–2028 (US\$ Million)

10.1.2.1.4 US: Enzymatic DNA Synthesis Market, by Application, 2019–2028 (US\$ Million)

10.1.2.1.5 US Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million) 10.1.2.2 Canada: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.2.2.1 Overview

10.1.2.2.2 Canada: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.2.2.3 Canada: Enzymatic DNA Synthesis Market, by Product Type, 2019–2028 (US\$ Million)

10.1.2.2.4 Canada: Enzymatic DNA Synthesis Market, by Application, 2019–2028 (US\$ Million)

10.1.2.2.5 Canada: Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million)

10.1.2.3 Mexico: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.2.3.1 Overview

10.1.2.3.2 Mexico: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.2.3.3 Mexico: Enzymatic DNA Synthesis Market, by Product Type, 2019–2028 (US\$ Million)

10.1.2.3.4 Mexico: Enzymatic DNA Synthesis Market, by Application, 2019–2028 (US\$ Million)

10.1.2.3.5 Mexico: Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million)

11. NORTH AMERICA ENZYMATIC DNA SYNTHESIS MARKET – INDUSTRY LANDSCAPE

11.1 Overview

- 11.2 Organic Growth Strategies
- 11.2.1 Overview
- 11.3 Inorganic Growth Strategies



11.3.1 Overview

12. COMPANY PROFILES

- 12.1 Telesis Bio Inc
- 12.1.1 Key Facts
- 12.1.2 Business Description
- 12.1.3 Products and Services
- 12.1.4 Financial Overview
- 12.1.5 SWOT Analysis
- 12.1.6 Key Developments
- 12.2 Ansa Biotechnologies, Inc.
- 12.2.1 Key Facts
- 12.2.2 Business Description
- 12.2.3 Products and Services
- 12.2.4 Financial Overview
- 12.2.5 SWOT Analysis
- 12.2.6 Key Developments
- 12.3 Camena Bio
- 12.3.1 Key Facts
- 12.3.2 Business Description
- 12.3.3 Products and Services
- 12.3.4 Financial Overview
- 12.3.5 SWOT Analysis
- 12.3.6 Key Developments
- 12.4 GenScript Biotech Corporation
- 12.4.1 Key Facts
- 12.4.2 Business Description
- 12.4.3 Products and Services
- 12.4.4 Financial Overview
- 12.4.5 SWOT Analysis
- 12.4.6 Key Developments
- 12.5 Molecular Assemblies
- 12.5.1 Key Facts
- 12.5.2 Business Description
- 12.5.3 Products and Services
- 12.5.4 Financial Overview
- 12.5.5 SWOT Analysis
- 12.5.6 Key Developments



- 12.6 DNA Script
- 12.6.1 Key Facts
- 12.6.2 Business Description
- 12.6.3 Products and Services
- 12.6.4 Financial Overview
- 12.6.5 SWOT Analysis
- 12.6.6 Key Developments
- 12.7 Touchlight
- 12.7.1 Key Facts
- 12.7.2 Business Description
- 12.7.3 Products and Services
- 12.7.4 Financial Overview
- 12.7.5 SWOT Analysis
- 12.7.6 Key Developments
- 12.8 Synbio Technologies
- 12.8.1 Key Facts
- 12.8.2 Business Description
- 12.8.3 Products and Services
- 12.8.4 Financial Overview
- 12.8.5 SWOT Analysis
- 12.8.6 Key Developments
- 12.9 Twist Bioscience
- 12.9.1 Key Facts
- 12.9.2 Business Description
- 12.9.3 Products and Services
- 12.9.4 Financial Overview
- 12.9.5 SWOT Analysis
- 12.9.6 Key Developments

13. APPENDIX

13.1 About The Insight Partners

13.2 Glossary of Terms



List Of Tables

LIST OF TABLES

Table 1. North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Table 2. US Enzymatic DNA Synthesis Market, by Product Type – Revenue and Forecast to 2028 (US\$ Million)

Table 3. US Enzymatic DNA Synthesis Market, by Application – Revenue and Forecast to 2028 (US\$ Million)

Table 4. US Enzymatic DNA Synthesis Market, by End User – Revenue and Forecast to 2028 (US\$ Million)

Table 5. Canada Enzymatic DNA Synthesis Market, by Product Type – Revenue and Forecast to 2028 (US\$ Million)

Table 6. Canada Enzymatic DNA Synthesis Market, by Application – Revenue and Forecast to 2028 (US\$ Million)

Table 7. Canada Enzymatic DNA Synthesis Market, by End User – Revenue and Forecast to 2028 (US\$ Million)

Table 8. Mexico Enzymatic DNA Synthesis Market, by Product Type – Revenue and Forecast to 2028 (US\$ Million)

Table 9. Mexico Enzymatic DNA Synthesis Market, by Application – Revenue and Forecast to 2028 (US\$ Million)

Table 10. Mexico Enzymatic DNA Synthesis Market, by End User – Revenue and Forecast to 2028 (US\$ Million)

Table 11. Recent Organic Growth Strategies in Enzymatic DNA Synthesis Market Table 12. Recent Inorganic Growth Strategies in The North America enzymatic DNA synthesis market

Table 13. Glossary of Terms



List Of Figures

LIST OF FIGURES

Figure 1. North America Enzymatic DNA Synthesis Market Segmentation

Figure 2. North America Enzymatic DNA Synthesis Market, by Country

Figure 3. North America Enzymatic DNA Synthesis Market Overview

Figure 4. DNA Library Synthesis Segment Held the Largest Share of Product Type

Segment in the North America Enzymatic DNA Synthesis Market

Figure 5. US Expected to Show Remarkable Growth During Forecast Period

Figure 6. North America: PEST Analysis

Figure 7. Experts' Opinion

Figure 8. North America Enzymatic DNA Synthesis Market: Impact Analysis of Drivers and Restraints

Figure 9. North America Enzymatic DNA Synthesis Market – Revenue Forecast and Analysis – 2020–2028

Figure 10. North America Enzymatic DNA Synthesis Market Revenue Share, by Product Type 2021 & 2028 (%)

Figure 11. Custom DNA Synthesis: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 12. DNA Library Synthesis: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 13. North America Enzymatic DNA Synthesis Market, by Application 2021 & 2028 (%)

Figure 14. Synthetic Biology: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 15. Genetic Engineering: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 16. Therapeutic Antibodies: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 17. Vaccine Design: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 18. Others: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 19. North America Enzymatic DNA Synthesis Market Revenue Share, by End User 2021 & 2028 (%)

Figure 20. Academic and Research Institutes: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 21. Biotech and Pharmaceutical Companies: North America Enzymatic DNA



Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 22. Diagnostic Laboratories: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 23. Others: North America Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 24. North America: Enzymatic DNA Synthesis Market, by Key Country -

Revenue (2021) (US\$ Million)

Figure 25. US: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 26. Canada: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 27. Mexico: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)



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