

# **Middle East & Africa 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 Middle East & Africa enzymatic DNA synthesis market is expected to grow from US\$ 9.76 million in 2022 to US\$ 92.26 million by 2028. It is estimated to register a CAGR of 45.4% from 2022 to 2028.

Growing Demand for Enzymatic DNA Synthesis Procedure to Offer New Opportunities for Players in Middle East & Africa Enzymatic DNA Synthesis Market During Forecast Period

Enzymatic approaches are the most attractive and are scalable, stereospecific, and environmentally benign. Enzymes can mediate mismatch recognition, enabling selective annealing of complementary strands, reducing the number of steps in each elongation cycle by eliminating the need for coupling reagents, and lowering the dependence on organic solvents. The enzymatic synthesis is inherently simpler than the chemical alternative and has the crucial potential to be much more precise than the chemical approach, introducing fewer errors into the code. This makes it possible to produce much longer sequences without causing cumbersome, inefficient, costly cleanups or workarounds. Several start-up companies and academic institutes are developing novel

enzyme-based DNA synthesis technologies, which are believed to be the first breakthrough in DNA synthesis technology in ~40 years. These methods would significantly reduce costs and production time. As several enzyme companies are now active in the enzymatic DNA synthesis space, different business models have emerged with an increasing focus on DNA assembly and benchtop printers, creating opportunities for The Middle East & Africa enzymatic DNA synthesis market. DNA Script offers the Syntax instrument as a benchtop DNA synthesizer in a similar size as a HiSeq sequencer developed by Illumina. This synthesizer can generate 60 bp oligonucleotides in pure form for immediate use within 6 hours. In addition, the next generation of on-demand DNA synthesizers is likely to provide unprecedented accuracy, scalability, and speed, democratizing access to this technology and realizing the full promise of synthetic DNA to accelerate the development of tomorrow's medicine. These projected developments in the DNA synthesis landscape are expected open new opportunities for companies operating in the Middle East & Africa enzymatic DNA synthesis market.

### Middle East & Africa Enzymatic DNA Synthesis Market Overview

According to Department of Molecular Genetics, Public Health Laboratory, Public Health Authority, Saudi Arabia, in 2021, more than half of the population in the country is in a congenital marriage, which is reflected in the increased number of autosomal recessive conditions. Saudi Arabia has the highest autosomal recessive birth rate across the world. Founder mutations or genetic pool account for 40% of the mutation pool, and it is restricted to the family. Thus, due to high incidence of consanguineous marriages, genetic diseases are highly prevalent in Saudi Arabia. The development and manufacturing of gene therapies could offer a solution for this chronic illness. SaudiVax aims to make gene therapies and other essential biologics accessible to patients in the Middle East and North Africa through a state-of-the-art manufacturing facility designed in collaboration with Merck. Thus, the prevalence of genetic disorders and initiatives by key players to overcome the genetic illness are driving the growth of the Middle East & Africa enzymatic DNA synthesis market in Saudi Arabia.

### Middle East & Africa Enzymatic DNA Synthesis Market Revenue and Forecast to 2028 (US\$ Million)

The Middle East & Africa enzymatic DNA synthesis market is segmented on the basis of product type, application, end user, and country.

Based on product type, the Middle East & Africa 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 Middle East & Africa 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 Middle East & Africa 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 Middle East & Africa enzymatic DNA synthesis market is segmented into Saudi Arabia, South Africa, the UAE, and the Rest of Middle East & Africa. In 2022, Saudi Arabia registered a largest share in the Middle East & Africa enzymatic DNA synthesis market.

DNA Script; GenScript Biotech Corporation; Synbio Technologies; Telesis Bio Inc; and Twist Bioscience are the leading companies operating in the Middle East & Africa 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 Middle East & Africa Enzymatic DNA Synthesis Market – by Product Type
  - 1.3.2 Middle East & Africa Enzymatic DNA Synthesis Market – by Application
  - 1.3.3 Middle East & Africa Enzymatic DNA Synthesis Market – by End User
  - 1.3.4 Middle East & Africa Enzymatic DNA Synthesis Market – by Country

### **2. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET – KEY TAKEAWAYS**

### **3. RESEARCH METHODOLOGY**

- 3.1 Coverage
- 3.2 Secondary Research
- 3.3 Primary Research

### **4. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET – MARKET LANDSCAPE**

- 4.1 Overview
- 4.2 Middle East & Africa PEST Analysis
- 4.3 Expert's Opinion

### **5. MIDDLE EAST & AFRICA 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

### 5.4.1 Growing Demand for Personalized Medicine and DNA Data Storage

## 5.5 Impact Analysis

## **6. ENZYMATIC DNA SYNTHESIS MARKET – MIDDLE EAST & AFRICA ANALYSIS**

### 6.1 Middle East & Africa Enzymatic DNA Synthesis Market Revenue Forecast and Analysis

## **7. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – BY PRODUCT TYPE**

### 7.1 Overview

#### 7.2 Middle East & Africa 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: Middle East & Africa 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: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

## **8. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET ANALYSIS AND FORECASTS TO 2028 – BY APPLICATION**

### 8.1 Overview

#### 8.2 Middle East & Africa Enzymatic DNA Synthesis Market, by Application 2021 & 2028 (%)

### 8.3 Synthetic Biology

#### 8.3.1 Overview

#### 8.3.2 Synthetic Biology: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

### 8.4 Genetic Engineering

#### 8.4.1 Overview

#### 8.4.2 Genetic Engineering: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

### 8.5 Therapeutic Antibodies

#### 8.5.1 Overview

8.5.2 Therapeutic Antibodies: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

#### 8.6 Vaccine Design

##### 8.6.1 Overview

8.6.2 Vaccine Design: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

#### 8.7 Others

##### 8.7.1 Overview

8.7.2 Others: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

### **9. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – BY END USER**

#### 9.1 Overview

9.2 Middle East & Africa 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: Middle East & Africa 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: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

#### 9.5 Diagnostic Laboratories

##### 9.5.1 Overview

9.5.2 Diagnostic Laboratories: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

#### 9.6 Others

##### 9.6.1 Overview

9.6.2 Others: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

### **10. MIDDLE EAST & AFRICA ENZYMATIC DNA SYNTHESIS MARKET – REVENUE AND FORECAST TO 2028 – COUNTRY ANALYSIS**

#### 10.1 Overview

10.1.1 Middle East & Africa: Enzymatic DNA Synthesis Market, by Country, 2021 & 2028 (%)

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

10.1.1.1.1 Overview

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

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

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

10.1.1.1.5 Saudi Arabia: Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million)

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

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

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

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

10.1.1.2.4 South Africa: Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million)

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

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

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

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

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

10.1.1.4 Rest of Middle East and Africa: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.1.4.1 Rest of Middle East & Africa: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

10.1.1.4.2 Rest of Middle East & Africa: Enzymatic DNA Synthesis Market, by Product Type, 2019–2028 (US\$ Million)



10.1.1.4.3 Rest of Middle East & Africa: Enzymatic DNA Synthesis Market, by Application, 2019–2028 (US\$ Million)

10.1.1.4.4 Rest of Middle East & Africa: Enzymatic DNA Synthesis Market, by End User, 2019–2028 (US\$ Million)

## **11. MIDDLE EAST & AFRICA 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 GenScript Biotech Corporation

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 DNA Script

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 Synbio Technologies

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 Twist Bioscience
- 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

### **13. APPENDIX**

- 13.1 About The Insight Partners
- 13.2 Glossary of Terms

## List Of Tables

### LIST OF TABLES

Table 1. Middle East & Africa Enzymatic DNA Synthesis Market –Revenue and Forecast to 2028 (US\$ Million)

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

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

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

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

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

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

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

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

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

Table 11. Rest of Middle East & Africa Enzymatic DNA Synthesis Market, by Product Type – Revenue and Forecast to 2028 (US\$ Million)

Table 12. Rest of Middle East & Africa Enzymatic DNA Synthesis Market, by Application – Revenue and Forecast to 2028 (US\$ Million)

Table 13. Rest of Middle East & Africa Enzymatic DNA Synthesis Market, by End User – Revenue and Forecast to 2028 (US\$ Million)

Table 14. Recent Organic Growth Strategies in Enzymatic DNA Synthesis Market

Table 15. Recent Inorganic Growth Strategies in The Middle East & Africa enzymatic DNA synthesis market

Table 16. Glossary of Terms

## List Of Figures

### LIST OF FIGURES

- Figure 1. Middle East & Africa Enzymatic DNA Synthesis Market Segmentation
- Figure 2. Middle East & Africa Enzymatic DNA Synthesis Market, by Country
- Figure 3. Middle East & Africa Enzymatic DNA Synthesis Market Overview
- Figure 4. DNA Library Synthesis Segment Held the Largest Share of Product Type Segment in the Middle East & Africa Enzymatic DNA Synthesis Market
- Figure 5. Saudi Arabia Expected to Show Remarkable Growth During Forecast Period
- Figure 6. Middle East & Africa: PEST Analysis
- Figure 7. Experts' Opinion
- Figure 8. Middle East & Africa Enzymatic DNA Synthesis Market: Impact Analysis of Drivers and Restraints
- Figure 9. Middle East & Africa Enzymatic DNA Synthesis Market – Revenue Forecast and Analysis – 2019–2028
- Figure 10. Middle East & Africa Enzymatic DNA Synthesis Market Revenue Share, by Product Type 2021 & 2028 (%)
- Figure 11. Custom DNA Synthesis: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 12. DNA Library Synthesis: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 13. Middle East & Africa Enzymatic DNA Synthesis Market, by Application 2021 & 2028 (%)
- Figure 14. Synthetic Biology: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 15. Genetic Engineering: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 16. Therapeutic Antibodies: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 17. Vaccine Design: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 18. Others: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 19. Middle East & Africa Enzymatic DNA Synthesis Market Revenue Share, by End User 2021 & 2028 (%)
- Figure 20. Academic and Research Institutes: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)
- Figure 21. Biotech and Pharmaceutical Companies: Middle East & Africa Enzymatic

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

Figure 22. Diagnostic Laboratories: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 23. Others: Middle East & Africa Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

Figure 24. Middle East & Africa: Enzymatic DNA Synthesis Market, by Key Country – Revenue (2021) (US\$ Million)

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

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

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

Figure 28. Rest of Middle East & Africa: Enzymatic DNA Synthesis Market – Revenue and Forecast to 2028 (US\$ Million)

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