

DNA Synthesizer Market Set to Reach USD 677.1 Million by 2030, Fueled by Advancements in Genetic Research

The increasing demand for synthetic biology applications are driving the exponential growth of the DNA Synthesizer Market.

AUSTIN, TEXAS, UNITED STATES, March 25, 2024 /EINPresswire.com/ -- The **DNA Synthesizer Market** has seen substantial growth in recent years, with a valuation of USD 229.2 million in 2022, projected to reach USD 677.1 million by 2030, growing at a CAGR of 14.5% from 2023 to 2030 according to the SNS Insider report.



DNA Synthesizer Market

Market Report Scope

A DNA synthesizer is a sophisticated laboratory tool used to produce DNA strands artificially. It exploits solid-phase synthesis, which involves chemically combining nucleotides in a specific order. A computer-controlled platform comprising reagent reservoirs, a reaction chamber, and programmable syringe pumps comprise the synthesizer. The procedure starts with the attachment of a DNA molecule to a solid substrate, followed by the successive addition of nucleotides via regulated chemical processes. The increasing demand for DNA synthesis in R&D is being driven by the growing understanding of the human genome and the development of new gene-editing technologies. DNA synthesis is used to create custom DNA sequences that can be used to study gene function, develop new drugs, and create genetically modified organisms.

Major Key Players in the DNA Synthesizer Market:

- Danaher
- AstraZeneca
- Twist Bioscience
- Kilobaser
- LGC Limited

- CSBio
- K&A Labs GmbH
- DNA Script
- Elegen
- OligoMaker ApS
- PolyGen GmbH
- EVONETIX LTD
- Biolytic Lab Performance Inc.

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Market Analysis:

The field of genetic research has experienced significant advancements in recent years. DNA synthesizers play a crucial role in this research by enabling the synthesis of custom DNA sequences. The growing demand for DNA synthesis is driven by the need to study genetic variations and gene expression and develop new therapeutic modalities such as gene therapies and personalized medicine.

DNA Synthesizer Market Segmentation

By Type

- Benchtop DNA Synthesizers
- Large-scale DNA Synthesizers

By Application

- Drug Discovery & Development
- Genetic Engineering
- Clinical Diagnostics

By End Use

- Academic & Research Institutes
- Pharmaceutical & Biotechnology Companies
- Clinical Laboratories

Segment Analysis:

By Type, the benchtop DNA Synthesizers segment is expected to hold the highest market share of 72.8% during the forecast period. Increased R&D expenditure, rising need for bespoke DNA synthesis, and strong demand from a diverse spectrum of end customers are expected to boost segment expansion.

By Application, the drug discovery & development segment is expected to dominate the market growth of 48.5% during the forecast period. The widespread use of DNA synthesizers in drug discovery, technological improvements, increased adoption of high-throughput technologies, and the existence of many market players with a diverse product portfolio are expected to drive segment expansion.

By End Users, the pharmaceutical & biotechnology companies' segment is expected to dominate the market growth of 52.6% during the forecast period. Most pharmaceutical and biotech businesses use synthetic DNA in the development of innovative genetic therapies and in the drug discovery process.

Regional Developments

North America held a significant market share of over 39.4% in 2022, driven by a significant number of market players, technical improvements, strong R&D expenditure, and rising demand for novel synthesizers Asia-Pacific is witnessing the fastest CAGR rate of 16.1% during the forecast period due to increased interest in synthetic biology research, rising R&D activities, improving healthcare infrastructure, and significant investments by market players.

Key Takeaways From the DNA Synthesizer Market Study

- Advancements in genetic research and the rise of synthetic biology are driving the DNA Synthesizer Market's exponential growth.
- The benchtop DNA Synthesizers segment, drug discovery & development applications, and pharmaceutical & biotechnology companies are key areas of dominance within the market.
- North America and Asia-Pacific are significant regions contributing to the market's growth, driven by technological advancements and increased investments.

Recent Developments

- Elegen launched its ENFINIA DNA platform for rapid DNA synthesis in March 2023, promising new innovations in synthesizer technology.
- AstraZeneca automated its DNA synthesis capabilities in February 2023 to enhance efficiency and speed in drug discovery.
- EVONETIX LTD received a patent for thermally regulated DNA synthesis in May 2022, marking a significant milestone in synthesizer technology.

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