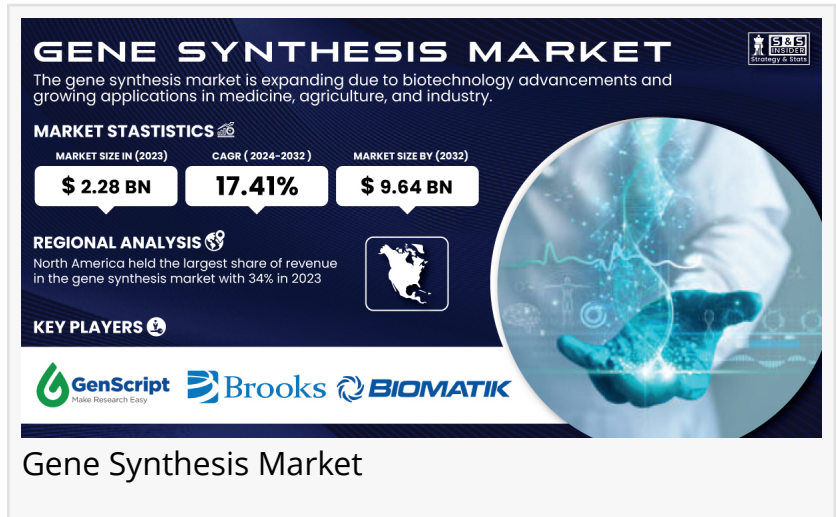


Gene Synthesis Market to Hit USD 9.64 Billion by 2032, Driven by Innovations in Biotechnology and Healthcare

Market growth fueled by advancements in automation, CRISPR technology, and high-throughput sequencing, with a projected CAGR of 17.41% during 2024-2032.

AUSTIN, TX, UNITED STATES, December 10, 2024 /EINPresswire.com/ -- The [Gene Synthesis Market](#) size was estimated at USD 2.28 billion in 2023 and is expected to reach USD 9.64 billion by 2032 at a CAGR of 17.41% during the forecast period of 2024-2032.



The gene synthesis market is experiencing rapid growth, mainly fueled by advances in biotechnology, health care, and agriculture. With the capability to synthesize customized genes in the laboratory, researchers have transformed research through the discovery of innovations in gene therapy, personalized medicine, drug discovery, and industrial biotechnology. Gene synthesis forms the core of targeted therapy development and advancement of agricultural biotechnology, which comprises genetically modified organisms. Technological advances in automation, CRISPR, and high-throughput sequencing have reduced costs and time so that gene synthesis is now much more efficient and accessible, hence propelling further growth in these industries.

Key Gene Synthesis Market Players:

GenScript

Brooks Automation Inc. (GENEWIZ)

Boster Biological Technology

Twist Bioscience

ProteoGenix Inc

Biomatik

ProMab Biotechnologies Inc.

Thermo Fisher Scientific Inc.
Integrated DNA Technologies Inc.
OriGene Technologies Inc. & Other Players

Get a Free Sample Report of Gene Synthesis Market @ <https://www.snsinsider.com/sample-request/4521>

Market Analysis

The gene synthesis market is on an upswing because of technological advancements, the growing need for personalized medicine, and the increase in various sectors' use of synthetic biology. The rate of diseases, genetic disorders, and cancer among patients is causing a sharp rise in chronic diseases; hence, patients are demanding a more personalized approach to this kind of disorder. The FDA's approval of therapies like Casgevy and Lyfgenia for sickle cell disease has emphasized the importance of gene synthesis in developing tailor-made therapies. Moreover, the investment from governments and private institutions is accelerating the development of new gene synthesis platforms, which enhance the accuracy, scalability, and speed of DNA production. Automation and artificial intelligence are increasingly being integrated into gene synthesis procedures, offering more cost-effective and high-quality DNA synthesis solutions. This is expected to fuel innovation in drug discovery, vaccine development, and the creation of biopharmaceuticals, thereby driving the market's expansion.

Segment Analysis

By Method

In 2023, the solid-phase synthesis segment dominated the gene synthesis market with a significant 36% revenue share. Solid-phase synthesis is still the preferred method for gene synthesis because of its flexibility and efficiency. This method allows the precise assembly of nucleotide sequences on a solid support, making it highly adaptable for producing both modified and traditional nucleic acids like RNA and DNA. Key companies, such as Agilent Technologies, Blue Heron Biotech, and Sloning Biotechnology, are driving the growth through improvements in solid-phase synthesis technology. With improved error reduction and turnaround time, solid-phase synthesis is thus fast becoming the method of choice for large-scale gene production and high-purity gene synthesis, especially in research and therapeutic development.

By Services

The antibody DNA synthesis segment dominated the market in 2023, contributing 61% of the market. This is a key technology to produce monoclonal antibodies for drug development, diagnostics, and immunotherapy. This technology enables the cloning of antibody genes into vectors that can be used to generate custom libraries of antibodies for therapeutic purposes. Companies like Twist Bioscience and Codex DNA have made great strides in antibody DNA synthesis through high-throughput platforms that accelerate the generation of antibodies. This service is highly dominated by its application in developing personalized therapies and

treatments for a wide range of diseases, especially in oncology and immunology.

Key Market Segments

By Method

- Solid-phase Synthesis
- PCR-based Enzyme Synthesis
- Chip-based Synthesis

By Services

- Antibody DNA Synthesis
- Viral DNA Synthesis
- Others

By Application

- Gene & Cell Therapy Development
- Disease Diagnosis
- Vaccine Development
- Others

By End User

- Academic and Research Institutes
- Biopharmaceutical Companies
- Contract Research Organizations

Need any customization research on Gene Synthesis Market, Enquire Now @

<https://www.snsinsider.com/enquiry/4521>

Regional Development

In 2023, North America dominated the market in terms of share, accounting for 34% of the gene synthesis market. The reason behind the dominance of North America is largely because of the strong presence of key market players such as GenScript and Thermo Fisher Scientific, along with substantial investments in biotechnology and pharmaceutical research. The U.S. has seen significant growth in synthetic biology and gene therapy research, driven by government funding and private sector investments. Furthermore, the region benefits from a well-established network of contract research organizations (CROs) offering gene synthesis services, which further enhances the market's growth.

Asia-Pacific is expected to show the fastest growth rate in the gene synthesis market throughout the forecast period, driven by increased investments in biotechnology, healthcare infrastructure, and synthetic biology. China and India are the two countries that are showing the most rapid advancements in gene synthesis technologies, and BGI Group and Genomatix are at the

forefront of these efforts. Government support for biotech research and the rising trends of chronic diseases in this region are driving the demand for gene synthesis services. Asia-Pacific is likely to be an important hub for gene synthesis innovation and implementation in this market as it expands.

Recent Developments

GenScript (October 2023): GenScript introduced its new gene synthesis platform that enhances scalability and efficiency, supporting large-scale production of custom genes with higher accuracy and reduced turnaround time.

Twist Bioscience (November 2023): Twist Bioscience announced the expansion of its high-throughput antibody production platform, enabling faster and more cost-effective development of antibody drugs.

Buy Full Research Report on Gene Synthesis Market 2024-2032 @ <https://www.snsinsider.com/checkout/4521>

Table of Contents – Major Key Points

1. Introduction
2. Executive Summary
3. Research Methodology
4. Market Dynamics Impact Analysis
5. Statistical Insights and Trends Reporting
6. Competitive Landscape
7. Gene Synthesis Market by Method
8. Gene Synthesis Market by Services
9. Gene Synthesis Market by Application
10. Gene Synthesis Market by End User
11. Regional Analysis
12. Company Profiles
13. Use Cases and Best Practices
14. Conclusion

About Us:

SNS Insider is one of the leading market research and consulting agencies that dominates the market research industry globally. Our company's aim is to give clients the knowledge they require in order to function in changing circumstances. In order to give you current, accurate market data, consumer insights, and opinions so that you can make decisions with confidence, we employ a variety of techniques, including surveys, video talks, and focus groups around the world.

Akash Anand

SNS Insider Pvt. Ltd

415-230-0044

[email us here](#)

Visit us on social media:

[Facebook](#)

[X](#)

[LinkedIn](#)

[Instagram](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/767806235>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.