

2025 DNA and RNA Synthesis Research Review

Market Research Report | 2026-04-16 | 152 pages | BCC Research

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Report description:

Description

Report Scope

DNA and RNA synthesis artificially manufacture deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Developing synthetic techniques to construct DNA and RNA has improved the ability to understand and engineer biology. Different types of synthesized DNA, such as oligonucleotides, genes, and DNA and RNA fragments, are available and can be tailored to customer needs. Synthetic DNA and RNA are used to develop new drugs and vaccines, gene therapies for genetic disorders, and the development of molecular diagnostic tools, including polymerase chain reaction (PCR) assays and nucleic-acid-based sensors, to detect pathogens and diseases.

DNA and RNA synthesis technology is vital in scientific fields such as synthetic biology, molecular genetics, and bioengineering, creating custom DNA and RNA sequences for various research, diagnostic, and therapeutic applications. The rapid expansion of genomics research, advances in therapeutic DNA and RNA applications, and the growing need for personalized medicine are driving exceptional growth in the DNA and RNA synthesis market. The innovations in Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR), gene therapy, and synthetic biology show that the demand for DNA and RNA synthesis has risen sharply, positioning it as a pivotal tool in developing targeted treatments and innovative genetic research solutions.

Research Reviews from BCC Research provide market professionals with concise market coverage within a specific research category. This 2025 Research Review of DNA and RNA synthesis technology provides a sampling of the type of quantitative market information, analysis, and guidance that BCC Research has been developing since its inception in 1971 to help its customers make informed business decisions. This Research Review includes highlights and excerpts from the following reports published by BCC Research in 2025:

- BIO193B Global DNA Read, Write, and Edit Market
- BIO152C The Chinese Market for DNA Sequencing
- BIO266A Global DNA Forensics Market
- PHM044D Epigenetics: Technologies and Global Markets

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- BIO212C mRNA: Therapeutics and Global Markets
- BIO146D Genome Editing: Technologies and Global Markets
- BIO159B Genetic Modification Therapies Clinical Applications: Gene Therapies, Genetically Modified Cell Therapies, RNA Therapies, and Gene Editing
- BIO080F Cell-Based Assays: Technologies and Global Markets

After you survey the excerpts in this Research Review, we encourage you to follow up on these topics by checking out the full market research reports associated with each topic. BCC Research looks forward to serving your market intelligence needs in the future.

Executive Summary

Summary:

The global market for DNA read, write, and edit was valued at \$25.9 billion in 2025 and is estimated to reach \$67.7 billion by 2030, at a compound annual growth rate (CAGR) of 21.2% from 2025 through 2030.

The global market for DNA forensics is projected to grow from an estimated \$3.3 billion in 2025 to \$4.7 billion by the end of 2030, at a compound annual growth rate (CAGR) of 7.7% from 2025 to 2030.

The global market for epigenetics research tools and reagents, IVDs and therapeutics is expected to grow from \$4.8 billion in 2024 to \$8.5 billion by the end of 2029, at a compound annual growth rate (CAGR) of 11.8% from 2024 through 2029.

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