

# Gene Transplant Market Expanding With \$6.71 Billion at 12.9% CAGR by 2029

*The Business Research Company's Gene Transplant Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034*

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Gene Transplant Global Market Report 2025

What Is The Forecast For The [Gene Transplant Market](#) From 2024 To 2029?

In recent times, there has been a swift expansion in the size of the gene transplant market. It's



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predicted to escalate from \$3.65 billion in 2024 to \$4.13 billion in 2025, reflecting a compound annual growth rate (CAGR) of 13.3%. The substantial growth observed in the historical period is due to a higher success ratio in preliminary clinical trials, growing utilization of next-generation sequencing (NGS), rising advancement in cell-based treatments, and growing prevalence of orphan drug designations.

In the upcoming years, the gene transplant market is projected to experience a swift expansion. It is anticipated

to soar to a valuation of \$6.72 billion in 2029, with a compound annual growth rate (CAGR) of 12.9%. The profound growth forecasted for this period is credited to a heightened focus on one-time healing treatments, an upscale in gene therapy manufacturing capabilities, progressive regulatory harmonization, an upsurge in neurological disorder applications, and the escalating employment of synthetic biology platforms. Key trends expected during this period comprise the fusion of artificial intelligence with gene editing platforms, merging of gene therapy with regenerative medicine, incorporation of wearable biosensors in gene therapy trials, the utilization of 3D bioprinting with gene-altered cells, and the adoption of blockchain in the management of clinical data.

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### What Are The Core Growth Drivers Shaping The Future Of The Gene Transplant Market?

The growth of the gene transplant market is anticipated to be driven by the advancements in gene therapy. This medical method, which alters or manipulates an individual's genes to combat or avert diseases, has witnessed significant growth due to improvements in delivery systems, enabling secure, efficient, and precise transportation of genetic material into cells. Gene therapy helps manage genetic disorders by offering targeted treatments that fix or substitute faulty genes and posing a promising method for conditions previously deemed incurable. By tackling the fundamental genetic cause, this technique mitigates the symptoms and progression of the disease, enhancing patients' results and life quality. As per the American Society of Gene & Cell Therapy (ASGCT), a non-profit medical and scientific organization based in the US, the Food and Drug Administration (FDA) sanctioned six gene therapy products in 2023, a rise from five approvals in 2022, in December 2024. Hence, gene therapy's growth is catalyzing the gene transplant market's expansion.

### Which Companies Are Currently Leading In The Gene Transplant Market?

Major players in the Gene Transplant Global Market Report 2025 include:

- Bayer AG
- Novartis AG
- CSL Behring LLC
- Charles River Laboratories International Inc.
- BioMarin Pharmaceutical Inc.
- Sarepta Therapeutics Inc.
- Ultragenyx Pharmaceutical Inc.
- CRISPR Therapeutics AG
- Beam Therapeutics Inc.
- Rocket Pharmaceuticals Inc.

### What Are The Key Trends And Market Opportunities In The Gene Transplant Sector?

The focus of leading entities in the gene transplant market has shifted towards the creation of sophisticated solutions such as automated cloning platforms. These platforms aim to enhance efficiency, boost precision, and speed up gene therapy development. Automated cloning platforms are systems that autonomously isolate and amplify single cells into monoclonal lines, enhancing accuracy, speed, and consistency for gene transplant and therapy applications. In a notable development in November 2024, UK's IotaSciences Ltd., a life sciences technology firm, rolled out the XT Single-Cell Cloning Platform, a technologically advanced automated cloning platform. It fuses automated microfluidics, AI-based image analysis, and nano-dispensing technology to provide precise isolation and cloning of individual cells on a large scale. This platform aims to expedite gene therapy development by confirming monoclonality, which is a vital regulatory requirement and decreases processing time from a matter of weeks to a few

days. Furthermore, this system also bolsters CRISPR-based gene editing applications by ensuring efficient delivery of editing elements to target cells, thereby enriching the creation of future-generation therapies.

### Comparative Analysis Of Leading [Gene Transplant Market Segments](#)

The gene transplant market covered in this report is segmented as

- 1) By Type: Autologous, Allogeneic
- 2) By Application: Genetic Disorders, Cancer, Rare Diseases, Other Application
- 3) By End-User: Hospitals, Research Institutes, Biotechnology Companies, Other End-Users

Subsegments:

- 1) By Autologous: Hematopoietic Stem Cell Transplantation, Gene-Modified Autologous Cell Therapy, Chimeric Antigen Receptor T (CAR-T) Cell Therapy
- 2) By Allogeneic: Hematopoietic Stem Cell Transplantation, Gene-Modified Allogeneic Cell Therapy, Allogeneic Chimeric Antigen Receptor T (CAR-T) Cell Therapy, Off-The-Shelf Gene Therapies

View the full gene transplant market report:

<https://www.thebusinessresearchcompany.com/report/gene-transplant-global-market-report>

### Which Regions Are Dominating The Gene Transplant Market Landscape?

In 2024, North America led the global market for gene transplants. It's predicted that Asia-Pacific will witness the fastest growth in the coming year, according to the Gene Transplant Global Market Report 2025. The report includes comprehensive details of various regions, specifically Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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