

Genome Engineering Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2017-2027 Segmented By Technology (CRISPR, TALEN, ZFN, Antisense, Others), By Delivery Method (Ex-Vivo v/s In-Vivo), By Application (Cell Line Engineering, Genetic Engineering, Diagnostic Applications, Drug Discovery & Development, Others), By End User (Pharmaceutical & Biotechnology Companies, Academic & Research Institutions, Others), By Region

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Report description:

The global genome engineering market is anticipated to witness an impressive growth during the forecast period. Genome engineering is a process that allows for the insertion, deletion, modification, or replacement of DNA in a living organism's genome. As a result of this, the technique can be used for development of new therapies, treatment and drugs for different therapeutic areas especially the chronic diseases. Various academic & research institutions and biotechnology & pharmaceutical companies are focusing and using this technology for development of novel therapies. For instance, Synthego Corporation introduced the Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) Pioneers Program in October 2017. Using this Clustered Regularly Interspaced Short Palindromic Repeats, researchers are focusing on discovering cures for cancer and other disease areas.

Increasing Development of Novel Technologies

Various companies and academic & research institutions are using genome engineering technique for the development of new therapies and treatment. This is not only helping them improvise their status but also improving the market positioning of various companies and helping them have an edge over other players operating in the market. For instance, Sangamo Therapeutics, Inc.'s SB-FIX, a zinc finger nuclease (ZFN)-mediated in vivo genome editing treatment for hemophilia B, recieved clinical trial

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authorization (CTA) from the U.K.'s Medicines and Healthcare Products Regulatory Agency (MHRA) in February 2018. Similarly, the first Cas9 enzyme variation, which reduces the off-target effects in CRISPR genome editing, was introduced in 2017 by Integrated DNA Technologies, Inc. This represented a significant step towards the therapeutic application of CRISPR.

Increasing Funding and Investments for Research and Development

The increasing funding and investments in the study and development of new genetic engineering technologies is expected to create lucrative opportunities for the growth of genome engineering market in the coming years. For instance, the United States National Institutes of Health (NIH) stated in January 2018 that it would be supporting genome editing research through its new program called Somatic Cell Genome Editing. Under this program grants will be provided to researchers across Canada and United States to conduct research related to genome editing.

Growing Application Areas of Genomics

The applications of genomics have significantly increased over the years across different fields including forensics, genetic disorders, drug discovery, agriculture among others. The advent of Next Generation sequencing has increased the application of genomics across the fields of forensics. Future trends in genome engineering includes its application in the field of nutraceuticals, marine engineering among others. Personalized nutrition and precision medicine are another field wherein the demand for genome engineering is expected to increase. A lot of research and clinical trials are being conducted across different parts of the globe to identify more areas wherein genomic engineering is used. This in turn will create lucrative opportunities for the growth of global genomic engineering market over the next few years.

Market Segmentation

The Global Genome Engineering market is segmented into by technology, by delivery method, by application, by end user, by region. Based on technology, the market can be categorized into CRISPR, TALEN, ZFN, Antisense, Others. Based on delivery method, the market is divided into Ex-Vivo v/s In-Vivo. Based on application, the market can be fragmented into Cell Line Engineering, Genetic Engineering, Diagnostic Applications, Drug Discovery & Development, Others. Based on by end user, the market can be segmented into Pharmaceutical & Biotechnology Companies, Academic & Research Institutions, Others. Regionally, North America dominated the market among Europe, Asia Pacific, South America and Middle East & Africa. United States holds the largest market among all the countries across the globe. This can be ascribed to the increasing research & development expenditure in the country for development of new therapies and treatment. In 2021, the Federal Funds allocation for research and development in United States was around USD185.41 billion.

Market Players

Merck KGaA, Sangamo Therapeutics, Inc., Genscript Biotech Corp, CRISPR Therapeutics AG, Editas Medicine, Inc., Precision BioSciences, Inc., Horizon Discovery Group plc, Lonza Group Ltd., OriGene Technologies, Inc., Transposagen Biopharmaceuticals, Inc. are the leading players operating in the Global Genome Engineering Market. Various companies operating in the market are focusing on research & development activities for development of therapies or drugs using genomic engineering. For instance, in October 2021, Merck KGaA licensed its patented CRISPR-Cas9 technology Celecta for the development of next-generation treatments. The technology has helped researchers and scientists across the globe in advancing treatments for the different forms of cancer, blood related genetic disorders, among others.

Report Scope:

In this report, Global Genome Engineering market has been segmented into following categories, in addition to the industry trends which have also been detailed below:

-□ Genome Engineering Market, By Technology:

o□ CRISPR

o□ TALEN

o□ ZFN

o□ Antisense

o□ Others

-□ Genome Engineering Market, By Delivery Method:

o□ Ex-Vivo

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o In-Vivo

- Genome Engineering Market, By Application:

o Cell Line Engineering

o Genetic Engineering

o Diagnostic Applications

o Drug Discovery & Development

o Others

- Genome Engineering Market, By End User:

o Pharmaceutical & Biotechnology Companies

o Academic & Research Institutions

o Others

- Genome Engineering Market, By Region:

o North America

- United States

- Canada

- Mexico

o Europe

- Germany

- France

- United Kingdom

- Spain

- Italy

o Asia-Pacific

- China

- India

- Japan

- South Korea

- Australia

o South America

- Brazil

- Argentina

- Colombia

o Middle East & Africa

- South Africa

- Saudi Arabia

- UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in Global Genome Engineering market.

Available Customizations:

With the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

- Detailed analysis and profiling of additional market players (up to five).

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