

Stem Cell Therapy Market– Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028F Segmented By Type (Allogenic Transplants, Autologous Transplants), By Cell Source (Adipose Tissue-Derived Mesenchymal Stem Cells, Bone Marrow-Derived Mesenchymal Stem Cells, Cord Blood/Embryonic Stem Cells), By Application (Cancer, Musculoskeletal Disorder, Wounds and Injuries, Cardiovascular Disease, Others), By End User (Hospitals and Surgical Centers, Therapeutic Companies), By Region, Competition

https://marketpublishers.com/r/S47FFF8D8A5EEN.html

Date: September 2023 Pages: 190 Price: US\$ 4,900.00 (Single User License) ID: S47FFF8D8A5EEN

# **Abstracts**

The global stem cell therapy market was valued at USD 263.10 million in 2022 and is expected to demonstrate robust growth in the forecast period, with a CAGR of 9.8% through 2028. Stem cell therapy, also known as regenerative medicine, facilitates the repair response of diseased, dysfunctional, or injured tissue through the utilization of stem cells or their derivatives. It represents the next phase in organ transplantation, substituting limited availability of donor organs with cells. Stem cells have the ability to differentiate into various cell types within the human body, functioning as a restorative mechanism. There are two primary classifications of stem cells: embryonic stem cells and adult stem cells. Stem cells are further categorized into two major groups: pluripotent and multipotent. Pluripotent stem cells, derived from embryos or fetal tissues, undergo replication and contribute to the development of cells and tissues within the mesoderm, ectoderm, and endoderm—the three primary germ layers.



Key Market Drivers:

Increasing Technological Advancement in Stem Cell Therapeutics:

The progress of stem cell therapies has been facilitated by advancements in stem cell isolation, expansion, and differentiation techniques. Scientists are currently exploring different sources of stem cells, including embryonic stem cells, induced pluripotent stem cells (iPSCs), and adult stem cells. Furthermore, emerging technologies such as gene editing (e.g., CRISPR) hold promise for improving the precision and effectiveness of stem cell-based treatments. The growing awareness and availability of stem cell therapies have led to an increasing demand for innovation and system development. Market players are actively seeking collaborations to enhance their research and development activities, aiming to expand the stem cell treatment market in both developing and developed nations. Substantial funding has been invested in cell-based research, particularly in the field of induced pluripotent stem cells. This technique involves genetic reprogramming of adult human stem cells to obtain embryonic-like stem cells, serving as a viable alternative in the market.

Surging Demand for Stem Cell Therapy

Stem cell therapy has garnered considerable attention and acceptance owing to its potential in regenerative medicine. It offers promise in the treatment of various conditions, including neurological disorders, cardiovascular diseases, orthopedic injuries, and autoimmune disorders. There has been a consistent growth in stem cell research, leading to an increase in approvals from regulatory authorities. Consequently, the market for stem cell therapy has experienced significant growth in the past and is expected to continue growing during the forecast period. Ongoing research and development activities in the field have also spurred demand for gene and cell treatments utilizing stem cells. Furthermore, the rising number of registered clinical trials is likely to have a considerable impact on market demand and drive sales growth.

Increasing in Government Support for Research and Development Activities

In developed nations and other countries with strong purchasing power, the demand for innovative medicines is expected to experience significant growth in the coming years. These medicines hold promise for the treatment of various disorders, including cardiovascular, neurological, and autoimmune conditions. The market for stem cell treatment or therapy is projected to expand due to the increasing prevalence of these diseases worldwide. The market has also witnessed growth in the past, fueled by



heightened funding. While using embryos in treatment raises ethical concerns, it is important to acknowledge their potential in saving lives. Continuous and development efforts have yielded innovative therapies. iPSCs are widely utilized by researchers worldwide to conduct studies on cancer. This product has been employed in clinical trials targeting diseases such as Parkinson's and Alzheimer's, leading to a projected market growth in the coming years. During the pandemic, researchers focused on developing treatments for combating the COVID-19 virus, with the use of stem cells showing promise. To enhance research activities in the stem cell market, the Australian government has made significant investments and provided a comprehensive roadmap for the next decade.

#### **Rising Chronic Disorders**

Chronic diseases are prevalent health issues globally, affecting one out of every three adults worldwide. These conditions encompass a range of ailments including cancer, musculoskeletal and neurologic disorders, chronic injuries, and cardiovascular and gastrointestinal diseases. They often necessitate hospitalization, long-term disability, diminished quality of life, and can even be fatal.

Stem cells have been utilized in various clinical trials for treating the virus, offering improved treatment options and significantly reducing the number of cases. Furthermore, the use of regenerative medicines may play a vital role in decreasing the infection rate among individuals. Anticipated growth in demand for this product is expected in the upcoming years, driven by an increase in clinical trials and obtaining necessary approvals from regulatory authorities. With a rising prevalence of chronic diseases worldwide, the demand for stem cell therapy is projected to expand, presenting favorable market opportunities in the future.

#### Key Market Challenges

#### High-Cost Treatment

Developing and implementing stem cell therapies involves significant research, clinical trials, and manufacturing costs. The high costs associated with research, development, and production can limit accessibility for patients. The expansion of the cell treatment market has been hindered by its high cost. As individuals seek out the latest therapeutic options, cell treatments have gained popularity as a treatment choice. Despite the significant increase in demand, cell treatments remain prohibitively expensive. Joint injections alone can cost up to USD1,000, while more complex procedures may reach



up to USD100,000. In the United States, the average cost of stem cell therapy is projected to range between USD4,000 and USD8,000 per patient in 2020. Consequently, the growth of the stem cell therapy market is constrained by the elevated cost of treatment.

#### Competition with Established Therapies

Stem cell therapies may need to demonstrate superiority over existing treatments to gain acceptance from medical professionals, insurers, and regulatory bodies. Stem cell therapies are often considered as potential alternatives or complements to established therapies in various medical fields. While stem cells hold great promise, they also face competition and comparisons with well-established treatment approaches. Stem cell therapies require rigorous testing and regulatory approval to ensure patient safety. The unpredictable behavior of stem cells and concerns about potential side effects, such as tumor formation or immune responses, pose challenges that must be addressed before widespread adoption.

#### Key Market Trends

Increased Clinical Trials and Research

The field of stem cell therapy is likely to see continued growth in clinical trials and research studies. As scientists better understand stem cell behavior and optimize their use, more evidence will be generated to support their efficacy and safety for various medical conditions. Ongoing research will likely reveal new and diverse applications for stem cell therapy across various medical conditions. As the understanding of stem cells expands, scientists may identify previously unrecognized opportunities for treatment.

#### International Collaboration

Collaboration among researchers and institutions on a global scale could accelerate progress in stem cell research. Shared knowledge and resources could lead to faster advancements and breakthroughs. Advances in stem cell research could lead to more precise and personalized therapies. By tailoring treatments to individual patients based on their specific needs and genetic makeup, researchers can enhance therapeutic outcomes and minimize potential risks. Successful outcomes from clinical trials could attract investment and lead to the commercial development of stem cell therapies. This could make these treatments more widely available to patients.



Segmental Insights

#### Type Insights

The allogenic transplants segment achieved the highest market revenue in 2022 by establishing a new immune system for patients through engraftment of donor cells. This therapeutic approach offers potential treatment for various malignant and non-cancerous disorders including acute leukemia, chronic leukemia, Hodgkin's lymphoma, adrenoleukodystrophy, bone marrow failure syndromes, and more.

The rising number of cancer patients has stimulated the demand for Omidubicel, an advanced cell therapy specifically designed for individuals with blood cancer. Notably, in 2022, the Managing Director of Duke Cancer Institute acknowledged the efficacy of allogenic stem cell transplant using the novel cell therapy Omidubicel in a phase 3 trial (NCT02730299), surpassing the standard myeloablative umbilical cord blood treatment.

The growth of this segment can be attributed to factors such as cost-effectiveness and the expansion of stem cell banking. Additionally, numerous cell therapy companies are redirecting their focus towards the development of allogenic cell therapy products, which is expected to further propel the expansion of this segment.

#### **Cell Source Insights**

The adipose tissue-derived mesenchymal stem cells segment emerged as the primary revenue contributor in 2022 and is expected to maintain its dominance throughout the forecast period in the stem cell therapy market. This can be attributed to the growing number of cancer patients, as well as the expanding target population, increased exposure to harmful radiation, and government initiatives. Conversely, the bone marrow-derived mesenchymal stem cells segment is projected to exhibit the highest market growth during the forecast period, driven by a higher incidence of chronic and fatal diseases like musculoskeletal disorders, and the rise in tobacco smoking, including passive smoking, which is associated with cancer

#### **Regional Insights**

Based on regional analysis, North America accounted for the largest share in the stem cell therapy market in 2022. The dominance of the North America region can be attributed to the presence of major market players in the region, advanced healthcare infrastructure, promising reimbursement and government policies, as well as increasing



awareness about stem cell therapies among the population. These factors contribute to the growth of the stem cells therapy market in this region. Moreover, investors are highly attracted to the stem cells therapy market in North America due to the rising research and development activities aimed at developing advanced therapies and providing better solutions to healthcare professionals and patients with critical disorders.

The Asia Pacific region is expected to be the next largest growing market, driven by the presence of emerging pharmaceutical companies collaborating in countries such as China, Japan, and India to invest in this market. The region also witnesses the entry of small start-ups in the stem cell therapy market. Ongoing large-scale clinical trials and the presence of stem cell banks in the region are expected to further expand the market's global footprint. Europe is anticipated to be the next largest region in the market.

#### Key Market Players

Biorestorative Therapies Inc.

Celgene Corporation

**ReNeuron Group plc** 

Opexa Therapeutics, Inc.

Pluristem Therapeutics Inc

STEMCELL Technologies Inc.

Biovault family

Precious Cells International Ltd

Mesoblast Ltd

Seneca Biopharmaceuticals, Inc.

Report Scope:



In this report, the Global Stem Cell Therapy Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Stem Cell Therapy Market, By Type:

Allogenic Transplants

Autologous Transplants

Stem Cell Therapy Market, By Cell Source:

Adipose Tissue-Derived Mesenchymal Stem Cells

Bone Marrow-Derived Mesenchymal Stem Cells

Cord Blood/Embryonic Stem Cells

Stem Cell Therapy Market, By Application:

Cancer

Musculoskeletal Disorder

Wounds and Injuries

Cardiovascular Disease

Others

Stem Cell Therapy Market, By End User:

Hospitals and Surgical Centres

**Therapeutic Companies** 

Stem Cell Therapy Market, By Region:

North America



**United States** 

Canada

Mexico

### Europe

France

United Kingdom

Italy

Germany

Spain

Asia-Pacific

China

India

Japan

Australia

South Korea

#### South America

Brazil

Argentina

Colombia



Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Stem Cell Therapy Market.

Available Customizations:

Global Stem Cell Therapy Market report with the given market data, Tech Sci 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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