

**Cell Cryopreservation Market By Type (Cryopreservation media, Equipment), By Application (Stem cells, Oocytes cells, Sperm cells, Others), By End User (Pharmaceutical and biotechnology company, Research institute, Others): Global Opportunity Analysis and Industry Forecast, 2023-2032**

Market Report | 2023-06-01 | 266 pages | Allied Market Research

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**Report description:**

The cell cryopreservation market size was valued at \$10.3 billion in 2022, and is projected to reach \$76.6 billion by 2032, growing at a CAGR of 22.2% from 2023 to 2032. Cryopreservation involves the preservation of organelles, cells, tissues, or any other biological component by freezing them at very low temperatures (-80°C to -196°C) and suspending their cellular metabolism, which preserves the cells for an indefinite amount of time. At low temperatures, biological and chemical reactions in living cells are dramatically reduced. Thus, cryopreservation plays a vital role in maintaining the integrity and functionality of cells, which make it suitable for biological research workflows. When water within cells freezes, ice formation can cause a solute imbalance and damage the cellular structure. Thus, the proper usage of techniques and a freezing medium containing the right cryoprotectants and additives can help researchers to maximize the post-thaw viability of cells for cell culture.

The growth of the global cell cryopreservation market is majorly driven by increase in infertility among women coupled with rise in number of egg freezing cycles. According to The Society for Assisted Reproductive Technology, it was reported that the egg freezing cycle increased by 31% from 2020 to 2021 in the U.S. In addition, rise in presence of biobanks is anticipated to drive the growth of the cell cryopreservation market. Biobanking has gained prominence due to its crucial role in facilitating biomedical research, drug discovery, and personalized medicine. According to the Biobank Resource Center, as of 2023, there are 340 registered biobanks, including both Canadian and international biobanks.

Moreover, according to the Journal of Biopreservation and Biobanking, in 2022, it was reported that the BBMRI directory listed 641 biobanks from 17 countries (as of February 12, 2021). With the advancement of biobanking technologies and the establishment of larger and more comprehensive biobanks, the demand for efficient and reliable cell cryopreservation methods has grown significantly. Furthermore, increase in R&D activities in pharmaceutical and biotechnology industries, rise in government support

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for R&D activities, and increase in prevalence of chronic diseases such as cancer and Parkinson's propel the growth of the market. According to Health Resource and Service Administration, in 2023, it was reported that the donor registry contains more than 9 million potential donors in the U.S. Furthermore, as per the National Library of Medicine, in 2022, it was reported that various preclinical research activities are conducted in embryonic stem cells for the treatment of wide range of disease such as retinal diseases, Parkinson's disease, Huntington's disease, spinal cord injury, myocardial infarction, and type 1 diabetes. In addition, the Government of India conducted stem cell research through various departments and institutions by supporting basic as well as clinical research through national funding agencies such as the Indian Council of Medical Research (ICMR), Department of Biotechnology (DBT), and Department of Science and Technology (DST).

Furthermore, according to Regulatory Affairs Professionals Society, in 2021, there were around 2,754 clinics engaged in providing stem cell therapies. Consequently, the growing demand for stem cell therapies acts as a significant driver of the cell cryopreservation market. In addition, surge in demand for personalized medicines is expected to act as a significant driver of the cell cryopreservation market. Cell-based therapies, such as immune cell-based immunotherapies and engineered cell therapies, are being explored as personalized treatment approaches. Cryopreservation enables long-term storage of patient-specific cells, including immune cells, which can be used in the development of personalized therapies.

By preserving these cells, cryopreservation ensures their availability when needed for patient-specific treatments. As the interest in personalized medicine continues to grow, the demand for cell cryopreservation methods and storage facilities increases simultaneously, thereby augmenting the growth of the global market. Furthermore, rise in infertility rates notably contributes toward the growth of the market. However, availability of alternative therapies for cell cryopreservation and high maintenance cost in storage procedure hinder the growth of the market.

The global cell cryopreservation market is segmented into type, application, end user, and region. On the basis of type, the market is bifurcated into cryopreservation media and equipment. The cryopreservation media segment is further sub segmented into ethylene glycol, dimethyl sulfoxide, glycerol, and others.. The equipment segment is subsegmented into freezers, liquid nitrogen supply tanks, and others.

?Depending on application, the market is classified into stem cells, oocytes cells, sperm cells, and others. By end user, it is segregated into pharmaceutical & biotechnology company, research institute, and others. Region wise, it is studied across North America (the U.S., Canada, and Mexico), Europe (Germany, France, UK, Italy, Spain, and rest of Europe), Asia-Pacific (China, Japan, Australia, India, and rest of Asia-Pacific), and LAMEA (Brazil, South Africa, Saudi Arabia, and rest of LAMEA). ?The major companies profiled in the report include Merck Group KGaA, HiMedia Laboratories, Thermo Fisher Scientific Inc. , Eppendorf Corporate, BioLife Solutions, Inc., Lonza, Sartorius AG, Creative Biolabs, Sartorius AG, and PromoCell GmbH.

#### Key Benefits For Stakeholders

- This report provides a quantitative analysis of the market segments, current trends, estimations, and dynamics of the cell cryopreservation market analysis from 2021 to 2031 to identify the prevailing cell cryopreservation market opportunities.
- The market research is offered along with information related to key drivers, restraints, and opportunities.
- Porter's five forces analysis highlights the potency of buyers and suppliers to enable stakeholders make profit-oriented business decisions and strengthen their supplier-buyer network.
- In-depth analysis of the cell cryopreservation market segmentation assists to determine the prevailing market opportunities.
- Major countries in each region are mapped according to their revenue contribution to the global market.
- Market player positioning facilitates benchmarking and provides a clear understanding of the present position of the market players.
- The report includes the analysis of the regional as well as global cell cryopreservation market trends, key players, market segments, application areas, and market growth strategies.

#### Key Market Segments

##### By Type

- Cryopreservation media
- Agent
- Ethylene glycol
- Dimethyl sulfoxide

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- Glycerol
- Others
- Equipment
- Type
- Freezers
- Liquid nitrogen supply tanks
- Others

#### By Application

- Stem cells
- Oocytes cells
- Sperm cells
- Others

#### By End User

- Pharmaceutical and biotechnology company
- Research institute
- Others

#### By Region

- North America
- U.S.
- Canada
- Mexico
- Europe
- Germany
- France
- UK
- Italy
- Spain
- Rest of Europe
- Asia-Pacific
- Japan
- China
- India
- Australia
- South Korea
- Malaysia
- Rest of Asia-Pacific
- LAMEA
- Brazil
- South Africa,
- Saudi Arabia
- Rest of LAMEA
- Key Market Players
- BioLife Solutions, Inc.
- Creative Biolabs
- Danaher Corporation
- Eppendorf Corporate
- HiMedia Laboratories

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- Lonza
- Merck Group KGaA
- PromoCell GmbH
- Sartorius AG
- Thermo Fisher Scientific Inc.?

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