

Induced Pluripotent Stem Cells: Global Markets

Market Research Report | 2024-11-07 | 152 pages | BCC Research

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Report description:

Description

Report Scope

The scope of this study encompasses an investigation of the market. BCC Research analyzes this market based on application type, product function, generation of iPSC and types of iPSC derived cells and species. Application-based market segments include drug development and toxicity testing, academic research and regenerative medicine. Product function-based market segments include molecular and cellular engineering, cellular reprogramming, cell culture, cell differentiation and cell analysis. iPSC-derived cell-type-based market segments include hepatocytes, neurons, cardiomyocytes, endothelial cells and other cell types. Other cell types include astrocytes, fibroblasts and hematopoietic progenitor cells. BCC Research determines the current market status in each segment, examines its impact on future needs and presents growth forecasts through 2028.

The report also provides a detailed analysis of the market's drivers, restraints, challenges and opportunities. In addition, the report includes the company profiles of the key players with detailed information about their business segments, financials, product portfolios and recent developments. It also provides detailed information on this market, emerging technologies and new developments, regulatory landscape, patent analysis, pipeline analysis and investment outlook and deals.

Report Includes

- 28 data tables and 56 additional tables
- An analysis of the global market for induced pluripotent stem cells (iPSCs) or artificial stem cells
- Analyses of global market trends, with market revenue data from 2020 to 2023, and projected CAGRs through 2028
- Estimate of the size and revenue prospects of the global market, along with a market share analysis by reprogramming method, generation method, application, product function, iPSC-derived cell type, species, end use, and region
- Facts and figures pertaining to the market dynamics, technological advances, regulations, and the macroeconomic factors that influence the industry
- A Porter's Five Forces model, as well as global supply chain and PESTLE analyses
- Insights into iPSC research activity, emerging technologies, clinical trials and pipeline products

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- Patent activity and analysis of recent patent grants/publications
- Overview of sustainability trends and ESG developments, with emphasis on consumer attitudes, ESG score analysis, and the ESG practices of leading companies
- Analysis of the industry structure, including company market shares, strategic alliances, M&A activity and a venture funding outlook
- Profiles of market leaders, including Fujifilm Cellular Dynamics (FCDI) Inc., Axol Bioscience Ltd., Merck KGaA, Thermo Fisher Scientific Inc., and Takara Bio Inc.

Executive Summary

Summary:

Induced pluripotent stem cells (iPSCs) are artificial stem cells generated from somatic cells through the simultaneous expression of specific factors associated with pluripotency. The discovery of human iPSCs (hiPSCs) and their capacity to differentiate into various cell types of the body has led to significant scientific interest and enthusiasm. In contrast to embryonic stem cells, iPSCs offer an added advantage of being easily derived from human samples without any ethical concerns.

The rapid evolution of human iPSC technology since 2007 led to an exciting new age for the fields of disease modeling, drug discovery, stem cell biology and regenerative medicine. Human iPSCs were rapidly applied to create human "disease-in-a-dish" models and for drug screening to check for potential toxicities as well as efficacy shortly after the technology was developed. With the rise in interest in phenotypic screening and the benefits of using human iPSCs for disease modeling over conventional cellular screens, these methods are currently gaining traction. These benefits include their human origin, ease of use, expandability, capacity to generate nearly any type of cell wanted, avoidance of the moral dilemmas surrounding human embryonic stem cells (ESCs) and the possibility of employing patientspecific iPSCs to create personalized therapeutics. The creation of genetically specified human iPSCbased disease models is becoming easier with current developments in gene-editing tools, particularly CRISPR/Cas9. Additionally, iPSCs play a significant role in a new generation of cellular platforms that are more physiologically similar and have several cell types and three-dimensional (3D) designs.

However, there are certain challenges associated with the use of iPSCs, including issues with clonal selection, in vitro culture, adaptability, and/or cell multiplication. Thus, even though the field of iPSCs has come a long way, there are still many issues that need to be seriously addressed to transform hope to reality regarding the effective clinical application of these cells in regenerative medicine.

The iPSC market was valued at \$3.1 billion in 2022 and is forecasted to grow at a CAGR of 9.1% to reach a value of \$5.2 billion by end of 2028.

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Market Drivers

Increasing Prevalence of Chronic Diseases

Increasing Investment in Biotechnology Industry

Increasing Demand for Personalized Medicines

Increasing Investments for Drug Research and Development

Demand for Effective Drug Discovery and Development Process

Minimizing Animal Testing

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LONZA
MERCK KGAA
NCARDIA
QIAGEN
REPROCELL INC.
STEMCELL TECHNOLOGIES
TAKARA BIO INC.
THERMO FISHER SCIENTIFIC INC.

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