

**Cell Analysis Market Assessment, By Product and Service [Consumables and Reagents, Instruments, Accessories, Software and Services], By Application [Oncology, Immunology, Cardiology, Genetic Disease, Stem Cells, Non-Invasive Prenatal Diagnosis, Others], By Technique [Flow Cytometry, Mass Spectrometry, Next Generation Sequencing, Polymerase Chain Reaction, Others], By Process [Cell identification, Target Identification and Validation, Cell Interaction, Cell Viability, Others], By End-user [Academic and Research Laboratories, Biotechnology and Pharmaceutical Companies, Hospitals and Diagnostic Laboratories, Others], By Region, Opportunities and Forecast, 2017-2031F**

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**Report description:**

Global cell analysis market is projected to witness a CAGR of 10.07% during the forecast period 2024-2031, growing from USD 22,708.17 million in 2023 to USD 48,913.48 million in 2031. The cell analysis market has witnessed significant growth driven by increasing demand for cell analysis tools in drug discovery and development, the development of advanced technologies such as automated cell counting, cell imaging, and flow cytometry, and the surge in R&D activities in the pharmaceutical and biotechnology industry. The cell analysis market is anticipated to thrive further and have a higher momentum during the forecast period.

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Cell analysis identifies, measures, and studies different aspects of cell structure, function, and behavior. It can be used to detect disease and evaluate the effectiveness of treatments. The global cell analysis market is expected to grow further, supported by developments in biomedical research that offer detailed insights into cellular mechanisms, supporting drug discovery and development that prudently assess efficacy and toxicity, and enhancing clinical diagnostics by identifying disease markers. The cell analysis market is experiencing rapid growth, further fueled by rising investments by biopharmaceutical companies, technological advancements, and a heightened demand for personalized medicine. For instance, in May 2024, Eli Lilly and Company announced an investment of USD 9 billion to increase production and manufacturing at their Indiana and Lebanon manufacturing sites. This aims to boost the manufacturing capacity of various APIs and pipeline medicine. This evolving sector includes diverse technologies such as high-throughput screening, single-cell analysis, flow cytometry, and advanced imaging techniques. Furthermore, new drug discovery plays a crucial role in keeping the market vibrant. For instance, in July 2024, the University of Oxford and Apollo Therapeutics Limited, a portfolio biopharmaceutical company, announced the signing of a drug discovery and development collaboration aimed at translating breakthroughs made by biomedical researchers at Oxford.

#### Increasing Demand for Cell Analysis Tools in Drug Discovery Drives Market Growth

The increasing demand for cell analysis in drug discovery and development drives market growth. Advanced cell screening technologies enhance research by providing precise tools for target drug discovery and validation. These techniques provide accurate data on drug effects and cellular responses, speeding drug development and reducing costs. The search for new therapies drives continued innovation in cellular diagnostic tools. Strategically utilizing advanced cell analysis tools may be effective for enhancing pipeline investments and seizing future market opportunities. For instance, in June 2024, Becton, Dickinson and Company, a leading global medical technology company, announced the commercial launch of a new single-cell research tool to help scientists better understand how the molecular machinery within a cell function and how it regulates changes in a cell that can lead to cancer and other diseases.

#### Development of Advanced Technologies Positively Impact Market Growth

Technological advancements are significantly boosting growth in the cell analysis market by enhancing research capabilities and broadening application areas. Key developments like high-throughput screening, flow cell measurements, and advanced imaging techniques are at the forefront of this transformation in cell analysis. The market is expanding rapidly as researchers and clinicians seek more accurate, efficient, and scalable solutions for studying cell biology, diagnosing diseases, and developing new treatments. This growth is further fueled by a combination of artificial intelligence and machine learning, which enhance advanced data analysis and interpretation. For instance, in July 2024, Agilent Technologies Inc. launched its novel ProteoAnalyzer system at the Singapore Cell and Gene Therapy Pan Asia Summit (SCGT). This system analyzes complex protein mixtures, facilitating quicker discoveries in pharmaceuticals, biopharma, and bioengineered food ingredients.

#### Prevalence of Oncological Disorders in the Global Cell Analysis Market

With the high prevalence of cancer, there is a substantial need for sophisticated diagnostic tests in the form of liquid biopsies and molecular profiling that are necessary to catch the disease early on with maximum accuracy. This demand drives the development and use of sophisticated cell analysis technologies. Global preclinical data in oncology supports the utility of these platforms for evaluating drug efficacy and safety. CRISPR-based approaches, multiplex assays and a gamut of cutting-edge imaging techniques are advancing traditional technologies for cell demographics. These technologies are also applied to the clinic to track disease progression and customize patient care. Initial progress in spatial omics and real-time cellular assays also extends the dimensionality of cell analysis.

For instance, in July 2024, Moffitt Cancer Center received the U.S. FDA approval for lifileucel, the first commercial tumor-infiltrating lymphocyte (TIL) therapy, which has shown promising results in treating various types of cancers, particularly melanoma and certain other solid tumors.

#### North America Dominates the Global Cell Analysis Market

North America holds the largest market share in the global cell analysis market. The region boasts a strong drug discovery ecosystem, quick adoption of cutting-edge technologies, and a high rate of chronic diseases, all of which fuel the demand for advanced cell analysis solutions. Moreover, the rising cases of cancer and substantial investments from both businesses and government organizations in cell-based research also contribute to the growth of the market. For instance, according to the National Cancer Institute, in 2024, an estimated 2 million new cancer cases will be diagnosed in the United States, with 611,720

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people expected to die from the disease. By 2040, the number of new cancer cases is projected to rise to 29.9 million annually, and the number of cancer-related deaths is expected to reach 15.3 million.

Future Market Scenario (2024-2031F)

The incorporation of sophisticated fiber optics with microfluidic chips for single-cell analysis is a remarkable progression that will trigger growth in the coming years within this market. This technology improves the accuracy and effectiveness of single-cell research by allowing for direct  $\mu$ -resolution inspection, images, and evaluation inside the microfluidic device. Thus, it enables the collection of detailed and accurate data about cellular properties within each cell, leading to insight into inter-cellular functions and heterogeneity.

Key Players Landscape and Outlook

The global cell analysis market is quite competitive with a huge number of players at local levels as well. Regulatory approvals of company products, mergers and acquisitions, and collaborations are the most common market strategies that have been observed in recent times.

In September 2023, Agilent Technologies Inc. established a Memorandum of Understanding (MOU) with the Advanced Cell Therapy and Research Institute, Singapore (ACTRIS), to enhance cell and gene therapy over the next three years. This partnership will see the installation and use of Agilent's extelligence real-time cell analyzer, Seahorse XF technology, and additional cell analysis tools at ACTRIS's largest national facility focused on developing and manufacturing cell and gene therapy in Singapore.

In July 2024, Bio-RAD Laboratories, Inc. expanded its Pioneer Antibody Discovery Platform to include rapid generation and screening of bispecific antibodies using its proprietary SpyLock Technology. This enhancement enables customers to efficiently identify and develop effective antibody combinations.

Table of Contents:

- 1. Project Scope and Definitions
- 2. Research Methodology
- 3. Executive Summary
- 4. Global Cell Analysis Market Outlook, 2017-2031F
  - 4.1. Market Size Analysis & Forecast
    - 4.1.1. By Value
  - 4.2. Market Share Analysis & Forecast
    - 4.2.1. By Product and Service
      - 4.2.1.1. Consumables and Reagents
      - 4.2.1.2. Instruments
      - 4.2.1.3. Accessories
      - 4.2.1.4. Software and Services
    - 4.2.2. By Application
      - 4.2.2.1. Oncology
      - 4.2.2.2. Immunology
      - 4.2.2.3. Cardiology
      - 4.2.2.4. Stem Cells
      - 4.2.2.5. Non-Invasive Prenatal Diagnosis
      - 4.2.2.6. Others
    - 4.2.3. By Technique
      - 4.2.3.1. Flow Cytometry
      - 4.2.3.2. Mass Spectrometry
      - 4.2.3.3. Next Generation Sequencing
      - 4.2.3.4. Polymerase Chain Reaction
      - 4.2.3.5. Others

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- 4.2.4.□By Process
  - 4.2.4.1.□Cell Identification
  - 4.2.4.2.□Target Identification and Validation
  - 4.2.4.3.□Cell Interaction
  - 4.2.4.4.□Cell Viability
  - 4.2.4.5.□Others
- 4.2.5.□By End-user
  - 4.2.5.1.□Academic and Research Laboratories
  - 4.2.5.2.□Hospitals and Diagnostic Laboratories
  - 4.2.5.3.□Pharmaceutical Companies
  - 4.2.5.4.□Others
- 4.2.6.□By Region
  - 4.2.6.1.□North America
  - 4.2.6.2.□Europe
  - 4.2.6.3.□Asia-Pacific
  - 4.2.6.4.□South America
  - 4.2.6.5.□Middle East and Africa
- 4.2.7.□By Company Market Share Analysis (Top 5 Companies and Others - By Value, 2023)
- 4.3.□Market Map Analysis, 2023
  - 4.3.1.□By Product and Service
  - 4.3.2.□By Application
  - 4.3.3.□By Technique
  - 4.3.4.□By Process
  - 4.3.5.□By End-user
  - 4.3.6.□By Region
- 5.□North America Cell Analysis Market Outlook, 2017-2031F\*
  - 5.1.□Market Size Analysis & Forecast
    - 5.1.1.□By Value
  - 5.2.□Market Share Analysis & Forecast
  - 5.3.□By Product and Service
    - 5.3.1.□Consumables and Reagents
    - 5.3.2.□Instruments
    - 5.3.3.□Accessories
    - 5.3.4.□Software and Services
  - 5.4.□By Application
    - 5.4.1.□Oncology
    - 5.4.2.□Immunology
    - 5.4.3.□Cardiology
    - 5.4.4.□Stem Cells
    - 5.4.5.□Non-Invasive Prenatal Diagnosis
    - 5.4.6.□Others
  - 5.5.□By Technique
    - 5.5.1.□Flow Cytometry
    - 5.5.2.□Mass Spectrometry
    - 5.5.3.□Next Generation Sequencing
    - 5.5.4.□Polymerase Chain Reaction
    - 5.5.5.□Others

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- 5.6.□By Process
  - 5.6.1.□Cell Identification
  - 5.6.2.□Target Identification and Validation
  - 5.6.3.□Cell Interaction
  - 5.6.4.□Cell Viability
  - 5.6.5.□Others
- 5.7.□By End-user
  - 5.7.1.□Academic and Research Laboratories
  - 5.7.2.□Hospitals and Diagnostic Laboratories
  - 5.7.3.□Pharmaceutical Companies
  - 5.7.4.□Others
- 5.8.□By Country Share
  - 5.8.1.1.□United States
  - 5.8.1.2.□Canada
  - 5.8.1.3.□Mexico
- 5.9.□Country Market Assessment
  - 5.9.1.□United States Cell Analysis Market Outlook, 2017-2031F\*
    - 5.9.1.1.□Market Size Analysis & Forecast
      - 5.9.1.1.1.□By Value
    - 5.9.1.2.□Market Share Analysis & Forecast
    - 5.9.1.3.□By Product and Service
      - 5.9.1.3.1.□Consumables and Reagents
      - 5.9.1.3.2.□Instruments
      - 5.9.1.3.3.□Accessories
      - 5.9.1.3.4.□Software and Services
    - 5.9.1.4.□By Application
      - 5.9.1.4.1.□Oncology
      - 5.9.1.4.2.□Immunology
      - 5.9.1.4.3.□Cardiology
      - 5.9.1.4.4.□Stem Cells
      - 5.9.1.4.5.□Non-Invasive Prenatal Diagnosis
      - 5.9.1.4.6.□Others
    - 5.9.1.5.□By Technique
      - 5.9.1.5.1.□Flow Cytometry
      - 5.9.1.5.2.□Mass Spectrometry
      - 5.9.1.5.3.□Next Generation Sequencing
      - 5.9.1.5.4.□Polymerase Chain Reaction
      - 5.9.1.5.5.□Others
    - 5.9.1.6.□By Process
      - 5.9.1.6.1.□Cell Identification
      - 5.9.1.6.2.□Target Identification and Validation
      - 5.9.1.6.3.□Cell Interaction
      - 5.9.1.6.4.□Cell Viability
      - 5.9.1.6.5.□Others
    - 5.9.1.7.□By End-user
      - 5.9.1.7.1.□Academic and Research Laboratories
      - 5.9.1.7.2.□Hospitals and Diagnostic Laboratories

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5.9.1.7.3. □Pharmaceutical Companies

5.9.1.7.4. □Others

5.9.2. □Canada

5.9.3. □Mexico

\*All segments will be provided for all regions and countries covered

6. □Europe Cell Analysis Market Outlook, 2017-2031F

6.1. □Germany

6.2. □France

6.3. □Italy

6.4. □United Kingdom

6.5. □Russia

6.6. □Netherlands

6.7. □Spain

6.8. □Poland

7. □Asia-Pacific Cell Analysis Market Outlook, 2017-2031F

7.1. □India

7.2. □China

7.3. □Japan

7.4. □Australia

7.5. □Vietnam

7.6. □South Korea

7.7. □Indonesia

7.8. □Philippines

8. □South America Cell Analysis Market Outlook, 2017-2031F

8.1. □Brazil

8.2. □Argentina

9. □Middle East and Africa Cell Analysis Market Outlook, 2017-2031F

9.1. □Saudi Arabia

9.2. □UAE

9.3. □South Africa

9.4. □Israel

10. □Demand Supply Analysis

11. □Import and Export Analysis

12. □Value Chain Analysis

13. □Porter's Five Forces Analysis

14. □PESTLE Analysis

15. □Pricing Analysis

16. □Market Dynamics

16.1. □Market Drivers

16.2. □Market Challenges

17. □Market Trends and Developments

18. □Regulatory Framework and Innovation

18.1. □Clinical Trials

18.2. □Regulatory Approvals

19. □Patent Landscape

20. □Case Studies

21. □Competitive Landscape

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- 21.1.□Competition Matrix of Top 5 Market Leaders
- 21.2.□SWOT Analysis for Top 5 Players
- 21.3.□Key Players Landscape for Top 10 Market Players
  - 21.3.1.□Agilent Technologies Inc.
    - 21.3.1.1.□Company Details
    - 21.3.1.2.□Key Management Personnel
    - 21.3.1.3.□Products and Services
    - 21.3.1.4.□Financials (As Reported)
    - 21.3.1.5.□Key Market Focus and Geographical Presence
    - 21.3.1.6.□Recent Developments/Collaborations/Partnerships/Mergers and Acquisitions
  - 21.3.2.□Becton, Dickinson and Company
  - 21.3.3.□Bio-RAD Laboratories Inc.
  - 21.3.4.□Danaher Corporation
  - 21.3.5.□Illumina Inc.
  - 21.3.6.□Merck KGaA
  - 21.3.7.□Miltenyi Biotec B.V. & Co. KG
  - 21.3.8.□Olympus Corporation
  - 21.3.9.□PerkinElmer Inc.
  - 21.3.10.□Promega Corporation
  - 21.3.11.□Sysmex Corporation
  - 21.3.12.□Thermo Fisher Scientific, Inc.

\*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

22.□Strategic Recommendations

23.□About Us and Disclaimer

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