

Cell-Based Assays: Technologies and Global Markets

Market Research Report | 2025-02-11 | 139 pages | BCC Research

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Report description:

Description

Report Scope

The scope of this report on the global market for cell-based assay technologies encompasses an analysis of the current landscape, including market size, growth trends and segmentation by product type, application and end user. The report breaks down the cell-based assay market into four product categories: instruments, consumables, services, and software. It also segments the market by application, such as drug discovery; absorption, distribution, metabolism, and excretion (ADME)/toxicity testing; and basic research. The end users considered in the report include academic and research institutions, pharmaceutical and biotech companies, and clinical research organizations.

Geographically, the analysis covers North America, Europe, Asia-Pacific, and Rest of the World (RoW). The report also provides profiles of key market players and highlights industry trends, major products, mergers and acquisitions, and other partnerships expected to influence the future of the industry.

Report Includes

- 23 data tables and 48 additional tables
- Analyses of the trends in the global market for cell-based assays, with sales data for 2021-2023, estimates for 2024, and projections of compound annual growth rates (CAGRs) through 2029
- Evaluation of the market's current and future potential
- Estimates of the market for cell-based assays, revenue forecasts, and corresponding market share analysis by product, type/application, end user and geographic region
- Assessment of the current market, new developments, spending trends, and revenue prospects for cell-based assays in the pharmaceutical industry
- Coverage of major issues involved in the R&D of more effective cell-based approaches for drug discovery
- Information on increasing investments in R&D activities, key technology issues, industry-specific challenges, major types of end users, and COVID-19 implications

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- Discussion of ESG challenges and practices of the industry
- Assessment of the competitive landscape, including the market shares of leading companies, their product portfolios and financial overviews
- Information on recent mergers and acquisitions, expansions, collaborations, investments, divestments and product launches
- Company profiles of major players within the industry, including Thermo Fisher Scientific Inc., Merck KGaA., Danaher Corp., Bio-Rad Laboratories Inc., and Charles River Laboratories.

Executive Summary

Summary:

The global cell-based assay market was \$32.4 billion in 2023 and is expected to grow at a CAGR of 9.8% to reach \$56.3 billion by the end of 2029. The market's growth is propelled by multiple factors that contribute to its expansion across many sectors, particularly in drug discovery, toxicity testing, and basic research. Cell-based assays, which utilize live cells to evaluate biological activity, are revolutionizing the life sciences industry by offering more accurate and physiologically relevant models compared to traditional methods such as animal testing. As these assays continue to evolve, they are helping to accelerate drug development processes, improving the efficacy and safety profiles of therapeutic candidates while also reducing animal testing and increasing cost efficiency.

A driver of the cell-based assay market is the increasing demand for novel drug discovery techniques. Pharmaceutical and biotech companies are investing in cell-based assays for high-throughput screening (HTS) to identify potential drug candidates, to evaluate drug efficacy, and to assess compound toxicity early in the drug development process. Compared to traditional biochemical assays, cell-based assays provide more predictive, human-relevant data, which is fundamental for the successful development of new therapeutics. As the pharmaceutical industry seeks to reduce the cost and time of bringing drugs to market, cell-based assays are being adopted as a more efficient alternative.

Additionally, the rise in chronic diseases such as cancer, cardiovascular disease (CVD), diabetes, and neurological disorders is driving the need for more effective and targeted therapies. As these diseases continue to affect a large portion of the global population, the demand for cell-based assays in both basic and clinical research has grown. Researchers are using these assays to better understand disease mechanisms at the cellular level, to identify potential biomarkers, and to evaluate drug responses more accurately. This has led to a surge in R&D investment to advance new cell-based assay technologies.

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Types of Cell-based Assays
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Absorption, Distribution, Metabolism, and Excretion (ADME)/Toxicity
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AGILENT TECHNOLOGIES INC.
BD
BIOIVT
BIO-RAD LABORATORIES INC.
CELL BIOLABS INC.
CELL BIOLOGICS INC.
CHARLES RIVER LABORATORIES
DANAHER CORP.
FUJIFILM HOLDINGS CORP.
GE HEALTHCARE
LONZA
MERCK KGAA
PROMEGA CORP.
REVVITY
THERMO FISHER SCIENTIFIC INC.

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