Cell-Based Assays: Technologies and Global Markets

Market Research Report | 2022-07-14 | 234 pages | BCC Research

AVAILABLE LICENSES:

- Single User License $5500.00
- 2-5 Users License $6600.00
- Site License $7920.00
- Enterprise License $9504.00

Report description:

Description

Report Scope:

This report is an update of an earlier report of the same title. This report offers a comprehensive analysis of the global cell-based assays market. Segmentation is based on product, type/application and end user. Based on type/application, the market is segmented as drug discovery for validating drug targets/lead profiling assays, absorption, distribution, metabolism, and excretion (ADME) toxicity assays and basic research. The regional markets covered are North America, Europe, Asia-Pacific, and the Rest of the World (RoW).

The report provides a detailed overview and analysis of the present and future global market for cell-based assay techniques. The report analyzes in detail currently available cell-based assays and their markets. Industry growth drivers, restraints and opportunities are also discussed in detail. The report also provides information on competitive landscape, elaborative company profiles and the impact of COVID-19 on the market.

Report Includes:

- 63 tables
- An up-to-date review of the global markets for cell-based assays and related technologies
- Analyses of the global market trends, with historic sales data from 2019 to 2021, estimates for 2022, and projections of compound annual growth rates (CAGRs) through 2027
- Highlights of the current and future potential in the market for cell-based assays, and areas of focus to forecast this market into various segments and sub-segments
- Estimation of the actual market size for cell-based assays, revenue forecast, and corresponding market share analysis based on

product, type/application, end user and geographic region
- Market assessment of the cell-based assays available and currently being used, new developments, spending trends, and revenue prospects for cell-based assays in the pharmaceutical industry
- Coverage of major issues involved in the research and development (R&D) of more effective cell-based approaches for drug discovery
- In-depth information on increasing investments on R&D activities, key technology issues, industry specific challenges, major types of end-user markets, and COVID-19 implications on the progress of this market
- Competitive analysis of the market for cell-based assays and updated information on the mergers, acquisitions, collaborations and recent developments during the 2020-2022 period
- Descriptive company profiles of the leading global players, including Becton, Dickinson & Company, Charles River Laboratories, General Electric Healthcare, Merck KGaA and Thermo Fisher Scientific Inc.

Executive Summary

Summary:

Cell-based assays are basically experiments used to study, analyze and understand how live cells respond to external factors. These assays are commonly used in drug discovery for validating drug targets. They are also used in lead profiling, in basic research for understanding cell signaling and function, and for ADME toxicity testing.

It has been observed that pharmaceutical R&D expenses place a significant burden on the healthcare industry because the drug discovery and development entails substantial time and resources to recognize an effective drug that can progress to clinical trial. This long process has a success rate of around 10%-12%, that is only 10% of the drugs get approval after undergoing clinical trials. So, using cell-based assays will be helpful in the initial step of drug discovery as it will help to screen the compounds. Also, with the advancement of technologies, automated processes are being used for drug screening and development purposes. Studies have indicated that using methods such as cell-based assays earlier in the drug development cycle will help in eliminating the toxic products and avoid late - stage drug failures and financial losses. Since live cells are used in cell-based assays, they are biologically more relevant and will also help in replacing animal testing.

There is a need to grow product pipelines for companies. The benefits of cell-based assays over in vivo methods have led to their increased use in drug discovery. In vitro cell-based methods also offer flexibility and cost advantages. In addition, advancements in automation and high-throughput techniques are offering support to this market.

The increasing prevalence of chronic diseases, aging population and increased healthcare expenditure are driving the drug discovery market. There are many diseases that still do not have any approved therapies for cures and depend only on symptomatic management, e.g., amyotrophic lateral sclerosis, cirrhosis, non-alcoholic steatohepatitis, etc. Therefore, cell-based assays will be beneficial for such indications. More research and the increasing prevalence of cancer as well as neurogenerative diseases, such as Alzheimer's, Parkinson's disease and other rare indications, will also be contributing factors for the market.

Personalized drug treatment is becoming a reality. In response to the rise in the incidence of a number of diseases and an aging population, the drug discovery industry is developing new and more efficacious drugs based on specific biomarker signatures. These drugs can be developed and tested to meet specific endpoints with the use of cell-based assays.

The global market for cell-based assays is estimated to be REDACTED in 2020 and is expected to increase to REDACTED by 2027, growing at a CAGR of REDACTED. The cell-based assaymarket is segmented based on application, component, end user, and region.Major players in the market are Thermo Fisher, Danaher, Becton, Dickinson & Company,Merck KGaA, Lonza, PerkinElmer and Promega. The North American region has the highest share of the cell-basedmarket, followed by Europe. This is because of

the extensive research and developmental activities taking place in the region, as well as the presence of major players, funding and the increasing prevalence of chronic diseases. All these factors contribute to growth in the market. Based on application, the drug discovery segment has the highest share.

Table of Contents:

Table of Contents
Chapter 1 Introduction
Study Goals and Objectives
Reasons for Doing This Study
What's New in This Update?
Scope of Report
Methodology
Geographic Breakdown
Analyst's Credentials
BCC Custom Research
Related BCC Research Reports
Chapter 2 Summary and Highlights
Chapter 3 Overview
Introduction
Overview: Cell-Based Assays
Drug Discovery
Tools for Drug Discovery
High-Content Screening
High-Content Screening Products
Data Analysis
Cell-Based Screening
Proliferation Assays
Apoptosis Assays
Activation Assays
Assays to Measure Gene Expression
Proof of Concept for Cell-Based Assays
Cell-Based Assays and Technology Trends
Advancements in Cell-Based Assays
Novel Cell-Based Assay Using Organoids, Scaffolds/Hydrogels and Organs-on-a-Chip
Spheroids for Drug Development
Label-Free Cell-Based Assay Technology Using Biolayer Interferometry
Lineage Sequencing for Mutational Analysis and Cancer-Based Studies
Evaluation of Hantavirus Replication Using In-Cell Western Assay
Quantitative Cell-Based Assay Using a High-Content Analysis Platform
High-Throughput Single-Cell Transcriptome Sequencing
Ex Vivo Chemosensitivity Assays for Individualized Cancer Chemotherapy
Luciferase-Based High-Throughput Screening Assay
Functionally Relevant Morphological Profiling for Mesenchymal Stromal Cells
G Protein-Coupled Receptors
GPCRs: A Potent Class of Drug Targets
GPCR Drugs
Developments

Cell-Based Assays: Screening Ion Channels
Chapter 4 Assays for Drug Discovery
Cell-Based Approaches for ADME/Tox Screening
Market Opportunities
ADME and Toxicity Screening
Multiplexed Cell-Based Assays
High-Throughput Imaging-Based Platform for Cell-Based Assays
Cell Assays in Today's Drug Discovery Process
Label-Free Cellular Assays: The Relevant Future of Drug Discovery
Conclusion
Chapter 5 Cell-Based Assays: Current Technologies
Factors in Cell-Based Assay Development
Reporter Gene Technology
Cell-Based Assays for Studying Protein-Protein Interactions
Cell-Based Protein-Fragment Complementation Assays
Measuring Calcium Signaling
Cell-Based Label-Free Approaches
Label-Free Detection
Companies
Thermo Fisher
CellSensor
LanthaScreen
Molecular Devices
Automation and Miniaturization
Cell Patterning
Cell-Based Assays and Physiological Relevance
Cell-Based Assays and Multiplexing
Developing Reporter Assays
Reporter Assays and Multiplexing
Ultrahigh-Throughput Screening
Development of the PathHunter Assay
High-Content Screening Technology
Imaging Cells for Cell-Based Assays
Microscopic Visualization of Cells
Quantum Dots
Label-Free Imaging
Investigational New Studies in Drug Development
Role of ADME in Drug Design
Prodrug Strategies
Molecular Modeling
Summary
Limitations of Cell-Based Assays in the Risk Assessment Process
Bottlenecks in Cell-Based Screening
Methods to Improve Throughput in Cell-Based Assays
New Technologies
DataChip
BIND Technology

Miniaturization of Biological Assays
Microfluidic Cell Culture Systems for Drug Research
Conclusion
Chapter 6 Commercialization of Cell-Based Assays
Role of Cell-Based Assays
Demand for Cell-Based Assays
Drug Discovery and Cell-Based Assays
Opportunities for Market Adoption
Measuring Cell Proliferation
Companies Offering Cell Proliferation Assays
Move toward Therapies with Stem and Immune Cells
Cell-Based Screening Assays
Orphan Receptors
Summary
Chapter 7 Market Dynamics
Factors Affecting the Market for Cell-Based Assays
Market Drivers
Market Restraints
Chapter 8 Impact of COVID-19
Introduction
Outbreak
COVID-19 Symptoms
Progression of COVID-19
Incubation Period
Epidemiology
Collaboration between Organizations and Governments
Spread of Disease
Impact of COVID-19 on the Cell-Based Assay Market
Chapter 9 Global Market for Cell-Based Assays by Application
Current Market Overview
Cell-Based Assays
Market for Cell-Based Assays
Applications
Drug Discovery
Basic Research
ADME and Toxicology
Chapter 10 Global Market for Cell-Based Assays by Segment
Consumables
Instruments
Software
Services
Chapter 11 Cell-Based Assays Market by End User
Biotechnology and Pharmaceutical Companies
Academic and Research Institutes
Contract Research Organizations
Chapter 12 Global Market for Cell-Based Assays by Region
Global Market Overview

Regional Markets
North America
Europe
Asia-Pacific
Rest of the World (RoW)
Chapter 13 Competitive Landscape
Mergers, Acquisitions, and Collaborations
Recent Developments
Competitive Analysis
Chapter 14 Company Profiles
AGILENT TECHNOLOGIES INC.
BECTON, DICKINSON & CO.
BIOIVT
BIO-RAD LABORATORIES
CELL BIOLOGICS
CELL BIOLABS INC.
CELL SIGNALING TECHNOLOGY INC.
CHARLES RIVER
CORNING, INC.
DANAHER
DISCOVERX CORP.
ENZO LIFE SCIENCES
EVOTEC AG
FUJIFILM CELLULAR DYNAMICS INC. (FCDI)
GE HEALTHCARE
LONZA
MERCK KGAA
ONCOLMMUNIN
PERKINELMER
PROMEGA CORP.
THERMO FISHER SCIENTIFIC

SCOTTS INTERNATIONAL

Cell-Based Assays: Technologies and Global Markets

Market Research Report | 2022-07-14 | 234 pages | BCC Research

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$5500.00
	2-5 Users License	$6600.00
	Site License	$7920.00
	Enterprise License	$9504.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-06-09
		Signature