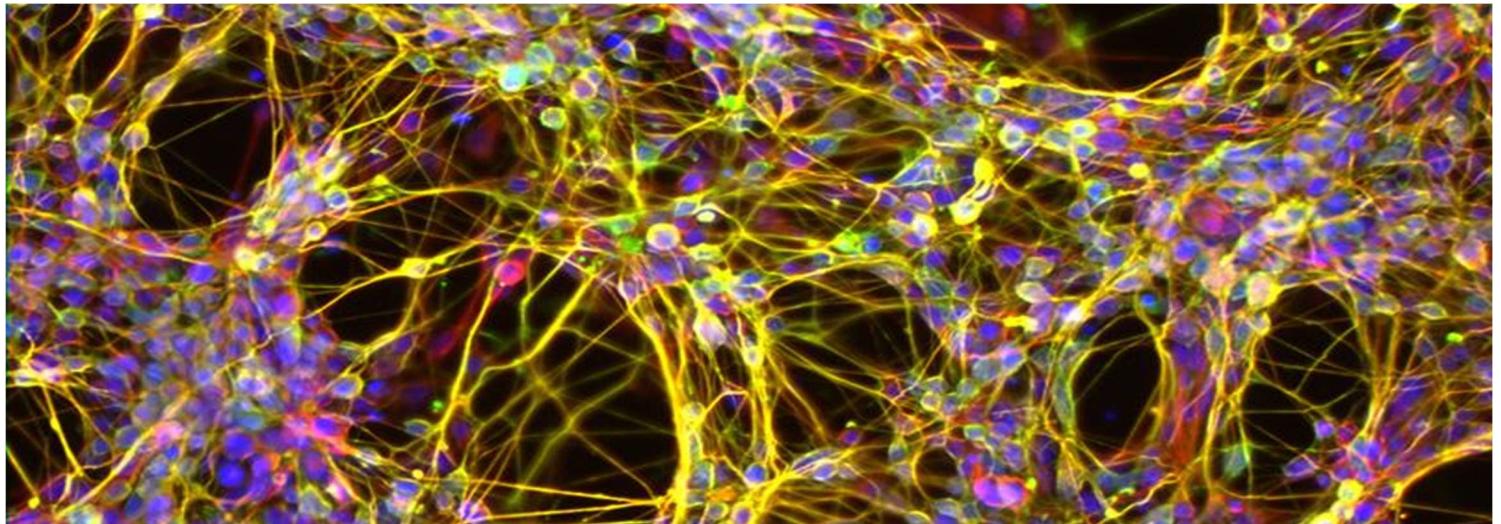


RESEARCH REPORT



Cell Based Assay & High Content Screening Markets

Forecasts by User and Product. With Executive and Consultant Guides. including Customized Forecasting and Analysis. 2024 to 2028



Call: 604 377 8604

Email: service@howesoundresearch.com

Howe Sound Research is a market research and consulting company based in Vancouver, British Columbia, Canada. In our spare time we like to sail in a large body of water nearby called Howe Sound. We publish market research reports that address scientific industries with an emphasis on Biotechnology and Clinical Diagnostic markets. We consider ourselves experts in these areas.

We approach market research differently than other companies. At any one time we have a limited number of reports and we update them frequently, sometimes several times a year. Our reports are prepared by people who understand the industry and have worked and studied in the area. This contrasts with the many research mills who produce canned reports on the Handbag market one day and the XRay market the next.

Our intellectual property is encryption protected. If you have issues with this or would like to upgrade to a corporate license that is not encrypted, please contact us at the email above.

Please feel free to contact us if you have any questions. We believe in customer service and are more than willing to provide after sales assistance and custom data.

All Rights Reserved. This document contains copyrighted intellectual property. No part of it may be circulated, copied, quoted, or otherwise reproduced without the approval of Howe Sound Research.

Please respect our intellectual property and do not distribute this document beyond the terms of your license.

Table of Contents

1	Market Guides.....	17
1.1	Situation Analysis.....	18
1.2	Guide for Executives and Marketing Staff	20
1.3	Guide for Investment Analysts and Management Consultants....	21
2	Introduction and Market Definition	22
2.1	What are Cell Based Assays?.....	23
2.2	Clinical Trial Failures.....	26
2.2.1	Immuno-oncology Plays a Leading Role in Cell Based Assays ...	28
2.3	Infectious Disease Will Play a Larger Role	30
2.4	Market Definition	30
2.4.1	Market Size	30
2.4.2	Currency.....	31
2.4.3	Years.....	31
2.5	Methodology	32
2.5.1	Methodology	32
2.5.2	Sources	32
2.5.3	Authors.....	33
2.6	U.S. Medical Market and Pharmaceutical Research Spending - Perspective.....	34

1.5.1 U.S. Expenditures for Pharmaceutical Research	34
3 Cell Based Assays – Guide to Technology	35
3.1 Cell Cultures	36
3.1.1 Cell Lines	36
3.1.2 Primary Cells	45
3.1.3 Stem Cells	46
3.1.4 iPSC's – The Special Case.....	47
3.2 Cell Assays	48
3.3 Cell Viability Assays	50
3.4 Cell Proliferation Assays	52
3.5 Cytotoxicity Assays	53
3.6 Cell Senescence Assays	53
3.7 Apoptosis	54
3.8 Autophagy	54
3.9 Necrosis.....	55
3.10 Oxidative Stress.....	56
3.11 2D vs. 3D	58
3.12 Signalling Pathways, GPCR	60
3.13 Immune Regulation & Inhibition	62
3.14 Reporter Gene Technology	63
3.15 CBA Design & Development	63
3.16 Cell Based Assays – The Takeaway	65
4 Industry Overview	66

4.1	Players in a Dynamic Market	67
4.1.1	Academic Research Lab	68
4.1.2	Contract Research Organization.....	68
4.1.3	Genomic Instrumentation Supplier	69
4.1.4	Cell Separation and Viewing Supplier.....	69
4.1.5	Cell Line and Reagent Supplier.....	70
4.1.6	Pharmaceutical Company	70
4.1.7	Audit Body.....	70
4.1.8	Certification Body.....	70
5	Market Trends	72
5.1	Factors Driving Growth	73
5.1.1	Candidate Growth	74
5.1.2	Immuno-oncology.....	74
5.1.3	Genomic Blizzard.....	76
5.1.4	Technology Convergence.....	76
5.1.5	The Insurance Effect.....	76
5.2	Factors Limiting Growth	78
5.2.1	CBA Development Challenges	78
5.2.2	Instrument Integration.....	79
5.2.3	Protocols	79
5.3	Technology Development	80
5.3.1	3D Assays	80
5.3.2	Automation	80

5.3.3 Software.....	81
5.3.4 Primary Cells	81
5.3.5 Signalling and Reporter Genes	82
5.3.6 The Next Five Years.....	83
6 Cell Based Assays Recent Developments	84
6.1 Recent Developments – Importance and How to Use This Section	
85	
6.1.1 Importance of These Developments	85
6.1.2 How to Use This Section	85
6.2 Castle Biosciences Sees Big Gains in New Testing Niches	85
6.3 Cell-Based Assay Outperforms Others.....	88
6.4 3D spheroid model Monitors T-cell invasion	91
6.5 BioAuxilium Launches New Biomarker Assay	93
6.6 Charles River Laboratories Acquires SAMDI Tech	95
6.7 Axion BioSystems Launches New High-Throughput Live-Cell Imaging Platform	96
6.8 Fujifilm's Life Sciences Invests in PhenoVista Biosciences.....	97
6.9 Nucleai Launches New Multiplex Imaging Spatial Analysis Solution	
98	
6.10 BIO-TECHNE ANNOUNCES MULTI-OMIC RNASCOPE ASSAYS	100
6.11 Indivumed, CellPhenomics Partner on Cancer Drug Target Research.....	101
6.12 Synthego to Accelerate Drug Discovery	102
6.13 Long COVID Detected By Cell-Based Assay	104

6.14	Nanolive closes a USD 20 million Funding Round	106
6.15	Depixus Seeks to Commercialize 'Magnetic Tweezers' for Drug Discovery	108
6.16	BioAuxilium Research Expands its Cell Signaling Assay Portfolio..	111
6.17	Droplet Genomics Debuts New Microfluidic Screening Platform	113
6.18	DLP Plus Single-Cell Sequencing Method Spreads From Canada to Cancer Labs Worldwide.....	118
6.19	Secondcell Bio to Make Creation of Cell Lines Easy	123
6.20	Nanolitre-scale cell assays developed with droplet microarray-mass spec	129
6.21	Thermo Fisher Scientific Acquires Cell Sorting Technology	130
6.22	Cellink to Distribute Phasefocus High-Content Cell Imaging Platform.....	131
6.23	Axxam and FUJIFILM Cellular Dynamics Announce Strategic Alliance	132
6.24	Cancer Genetics to Acquire Organoid Startup Stemonix.....	134
6.25	Curi Bio Acquires Artificial Intelligence Firm Dana Solutions	135
6.26	CRISPR Screens Uncover Novel Cancer Therapy Targets	136
6.27	ERS Genomics Licenses CRISPR-Cas9 Patents to Axxam	141
7	Profiles of Key Cell Based Assay Companies	143
7.1	Abcam.....	144
7.2	Agilent.....	146
7.3	Aurora Biomed.....	148
7.4	Axxam	150
7.5	Beckman Coulter Diagnostics	152

7.6	Becton, Dickinson and Company	153
7.7	Berkley Lights	155
7.8	BioIVT	156
7.9	Bio-Rad Laboratories, Inc.	158
7.10	BMG Labtech.....	161
7.11	Bruker.....	162
7.12	Cell Biolabs, Inc.....	164
7.13	Cell Signaling Technology, Inc.....	165
7.14	Charles River Laboratories.....	167
7.15	Corning, Inc.....	169
7.16	Cyttek Biosciences	171
7.17	Cytovale	173
7.18	Deepcell	174
7.19	Enzo Biochem.....	175
7.20	Eurofins DiscoverX Corporation	177
7.21	Evotec AG	179
7.22	Excellerate Bioscience.....	181
7.23	Fujifilm Cellular Dynamics International.....	182
7.24	Genedata	184
7.25	Hemogenix	185
7.26	Invivogen	187
7.27	Leica Biosystems	189
7.28	Lonza Group Ltd.	191

7.29	Luminex Corp (DiaSorin)	193
7.30	Merck & Co., Inc.....	195
7.31	Miltenyi Biotec.....	197
7.32	Molecular Devices.....	198
7.33	Nanion.....	200
7.34	Ncardia.....	202
7.35	New England Biolabs, Inc.....	204
7.36	Novogene Bioinformatics Technology Co., Ltd.	206
7.37	Olympus.....	209
7.38	Origene Technologies.....	211
7.39	Promega.....	212
7.40	Qiagen.....	214
7.41	Reaction Biology.....	216
7.42	Recursion Pharma	217
7.43	Revvity.....	219
7.44	Roche Diagnostics.....	221
7.45	Sartorius.....	226
7.46	Sartorius-ForteBio.....	228
7.47	Sartorius-IntelliCyt.....	229
7.48	Singleron Biotechnologies	230
7.49	Sony Biotechnology	231
7.50	SPT Labtech.....	233
7.51	Stemcells Technologies Canada Inc.....	235

7.52 Tecan	237
7.53 Thermo Fisher Scientific Inc.	239
7.54 Vitro Biopharma.....	241
8 Global Market Size.....	243
8.1 Global Market Overview by Country.....	244
8.1.1 Table – Global Market by Country.....	244
8.1.2 Chart - Global Market by Country	245
8.2 Global Market by User - Overview	246
8.2.1 Table – Global Market by User.....	246
8.2.2 Chart – Global Market by User – Base/End Year Comparison..	247
8.2.3 Chart – Global Market by User – Base Year.....	248
8.2.4 Chart – Global Market by User – End Year.....	249
8.2.5 Chart – Global Market by User – Share by Year.....	250
8.3 Global Market by Product Class - Overview	251
8.3.1 Table – Global Market by Product Class.....	251
8.3.2 Chart – Global Market by Product Class – Base/End Year Comparison	252
8.3.3 Chart – Global Market by Product Class – Base Year	253
8.3.4 Chart – Global Market by Product Class – End Year.....	254
8.3.5 Chart – Global Market by Product Class – Share by Year	255
9 Global Market by User Type	256
9.1 Pharma	257
9.1.1 Table Pharma – by Country	257

9.1.2 Chart - Pharma Growth.....	258
9.2 Research.....	259
9.2.1 Table Research – by Country.....	259
9.2.2 Chart - Research Growth	260
9.3 Industry/Cosmetic	261
9.3.1 Table Industry/Cosmetic – by Country	261
9.3.2 Chart - Industry/Cosmetic Growth.....	262
10 Cell Based Assay by Product Class	263
10.1 Instrument	264
10.1.1 Table Instrument – by Country.....	264
10.1.2 Chart - Instrument Growth	265
10.2 Reagent.....	266
10.2.1 Table Reagent – by Country.....	266
10.2.2 Chart - Reagent Growth	267
10.3 Services	268
10.3.1 Table Services – by Country	268
10.3.2 Chart - Services Growth	269
10.4 Software.....	270
10.4.1 Table Software – by Country	270
10.4.2 Chart - Software Growth	271
11 Appendices.....	272
11.1 FDA Cancer Drug Approvals by Year.....	273
11.2 Clinical Trials Started.....	274

11.3 Share of Pharma R&D by Country..... 275

Table of Tables

Table 1 The Large Variety of Cell Lines.....	38
Table 2 Some Common Viability Assays	51
Table 3 Oxidative Stress Related Diseases	57
Table 4 Important Signalling Pathways	60
Table 5 Market Players by Type.....	67
Table 6 Five Factors Driving Growth	73
Table 7 Three Factors Limiting Growth	78
Table 8 - Global Market by Region.....	244
Table 9 Global Market by User	246
Table 10 Global Market by Product Class	251
Table 11 Pharma by Country.....	257
Table 12 Research by Country	259
Table 13 Industry/Cosmetic by Country.....	261
Table 14 Instrument by Country	264
Table 15 Reagent by Country	266
Table 16 Services by Country	268
Table 17 Software by Country	270

Table of Figures

Figure 1 Reasons for clinical Failure by Phase	26
Figure 2 Immunotherapy Clinical Trial Growth.....	29
Figure 3 Pharmaceutical Research Expenditures (\$Billion)	34
Figure 4 Oxidative Stress and Free Radical Toxicity.....	57
Figure 5 FDA Cancer Drug Approvals	74
Figure 6 The Changing Approach to Cancer Diagnostics.....	75
Figure 7 Growth rates of Cell Based Assays by Product Class	83
Figure 8 Global Market Share Chart.....	245
Figure 9 Global Market by User – Base vs. End Year	247
Figure 10 Global Market by User Base Year	248
Figure 11 Global Market by User End Year	249
Figure 12 User Share by Year	250
Figure 13 Global Market by Product Class – Base vs. End Year.....	252
Figure 14 Global Market by Product Class Base Year.....	253
Figure 15 Global Market by Product Class End Year	254
Figure 16 Product Class Share by Year.....	255
Figure 17 Pharma Growth	258
Figure 18 Research Growth	260
Figure 19 Industry/Cosmetic Growth	262
Figure 20 Instrument Growth.....	265

Figure 21 Reagent Growth.....	267
Figure 22 Services Growth.....	269
Figure 23 Software Growth	271
Figure 24 FDA Cancer Drug Approvals by Year	273
Figure 25 Clinical Trials for Immunotherapy by Year.....	274
Figure 26 Share of Pharma R&D by Country	275