

# BIOINFORMANT

## Global Induced Pluripotent Stem Cell (iPS Cell) Industry Report



1ST AND ONLY MARKET RESEARCH FIRM TO  
SPECIALIZE IN THE STEM CELL INDUSTRY

**TABLE OF CONTENTS**

1.	REPORT OVERVIEW .....	18
1.1	Statement of the Report.....	18
2.	INTRODUCTION .....	20
3.	CURRENT STATUS OF IPSC INDUSTRY .....	21
3.1	Approval of the First Two iPSC-based Therapies .....	21
3.1.1	Amchepry (raguneprocel) .....	21
3.1.2	ReHeart.....	22
3.2	Forthcoming iPSC-Derived Therapeutics .....	22
3.2.1	Fertilo .....	22
3.2.2	Bemdaneprocel (BRTX-100).....	23
3.3	The Second Line of iPSC-based Products in Clinical Trials.....	24
3.4	Current Status of iPSC-Based Clinical Trials for Therapeutic Development.....	24
3.5	AI-Powered Automation in iPSC Manufacturing.....	25
3.5.1	Companies Providing AI-Powered Automation Services .....	25
3.6	Advanced Reprogramming Technologies Currently in use .....	26
3.6.1	The Major Patent Cliff beginning in 2026.....	27
3.6.1.1	The New “Post-Expiry” Opportunities .....	27
3.7	Shift toward Automation in iPSC Production .....	28
3.8	Current Utilization of Genome-Editing Tools in iPSCs .....	28
3.9	Current Utilization of Organoids & 3D Tissues in iPSC-Derived Disease Models .....	29
3.10	Significant increase in the number of Market Participants .....	30
3.10.1	Types of iPSC-Related Companies in 2026 .....	30
3.10.1.1	The iPSC Therapeutics Developers (Clinical & Preclinical) Companies .....	30
3.10.1.2	iPSC Product & Research Tool Suppliers.....	31
3.10.1.3	Contract Development and Manufacturing Organizations (CDMOs) .....	31
3.10.1.4	Longevity and Rejuvenation Companies (Partial Reprogramming) .....	31
4.	IPSC MANUFACTURING .....	32
4.1	Tissue Acquisition and Donor Screening.....	32
4.2	Somatic Cell Isolation and Priming.....	33
4.2.1	Isolation of Dermal Fibroblasts .....	33
4.3	Reprogramming of Somatic Cells into iPSCs .....	33
4.4	Expansion and Selection of iPSC Colonies.....	34
4.4.1	Selection of iPSC Colonies after Reprogramming.....	34
4.5	Directed Differentiation of iPSCs into Specific Cell Types .....	35
4.6	Development of Organoids from iPSCs.....	35
4.6.1	Key Steps in iPSC-Derived Organoid Development.....	36
5.	RESEARCH PUBLICATIONS ON INDUCED PLURIPOTENT STEM CELLS .....	37
5.1	Rapid Growth of iPSC Publications in PubMed.gov .....	38
5.2	Categories of iPSC Research Themes.....	39
5.2.1	PubMed Published iPSC Papers on Pathophysiological Studies.....	40
5.2.2	PubMed Published iPSC Papers on Reprogramming Studies .....	41
5.2.3	PubMed Published Papers on iPSC Differentiation Studies.....	42
5.2.4	PubMed Published Papers on iPSC-based Drug Discovery .....	43
5.2.5	PubMed Published Papers on iPSC-based Cell Therapy.....	44
5.2.6	Future Trends in iPSC Research .....	45
5.2.6.1	Anticipated advancements in Therapeutic Applications .....	45
5.2.6.2	Enhanced Disease Modeling and Drug discovery.....	46
5.2.6.3	Technological Innovations and Automation.....	46
5.2.6.4	Future Research Directions and Challenges.....	47

6.	IPSC PATENT LANDSCAPE .....	48
6.1	iPSC Patent Applications by Jurisdiction .....	49
6.2	iPSC Patent Applicants.....	50
6.3	Inventors of iPSC Patent Applications .....	54
6.4	Major iPSC Patent Owners.....	57
6.5	Current Legal Status of iPSC Patents .....	60
6.5.1	Granted iPSC Patents.....	61
6.5.2	Key Technology Areas Protected .....	61
6.5.3	Geographical Trends in iPSC Granted Patents .....	62
6.5.4	Recently Granted iPSC Patents (2024-2026) .....	62
6.5.4.1	Recent Patent of RxCell, Inc. ....	62
6.5.4.2	Recent Patent of Pluristyx .....	63
6.5.4.3	Recent Patent of Applied StemCell, Inc. ....	63
6.5.4.4	Recent Patent of iPS Academia Japan/Kyoto University .....	63
6.5.4.5	Recent Patent of Allele Biotechnology .....	63
6.6	Recent iPSC Patent Licensing Activity .....	63
6.6.1	Licensing Fees for iPSC Patents .....	64
6.7	The Future Direction of Growth in iPSC Patent Activity .....	64
6.7.1	The “Patent Cliff” and Focus Shift.....	64
7.	CLINICAL TRIAL LANDSCAPE: INDUCED PLURIPOTENT STEM CELLS .....	65
7.1	Late-Stage iPSC Clinical Trials & Progress.....	65
7.2	Current Recruitment Status .....	66
7.3	iPSC Clinical Trials by Study Designs .....	66
7.4	Therapeutic & Non-Therapeutic iPSC Clinical Trials.....	67
7.4.1	The iPSC Non-Therapeutic Clinical Studies by Use.....	68
7.4.2	Diseases Targeted by Therapeutic Studies.....	69
7.4.3	The iPSC Clinical Trials Addressing Ocular Diseases.....	71
7.4.4	Trials IPSC-Based Clinical Trials Addressing CNS Disorders.....	71
7.4.5	IPSC-Derived Cardiomyocytes and Muscle Products in Clinical Trials .....	72
7.4.6	IPSC-Based in Immune and Blood Products Clinical Trials .....	73
7.4.7	Stromal Products in Clinical Trials .....	73
7.5	iPSC-based Clinical Trials by Phase of Study.....	74
7.6	iPSC Clinical Trials by Funder Type.....	75
7.7	Geographic Distribution of iPSC Clinical Trials .....	76
7.8	Predicted Future Directions of iPSC-Based Clinical Trials.....	78
8.	M&A, COLLABORATIONS AND FUNDING ACTIVITIES IN IPSC SECTOR.....	80
8.1	Mergers and Acquisitions (M&A) in iPSC Sector.....	80
8.1.1	Axol Biosciences’ Acquisition of Newcells Biotech .....	80
8.1.2	Acquisition of Phenocell by Axol Biosciences.....	81
8.1.3	Acquisition of Clade Therapeutics by Century Therapeutics .....	81
8.2	Partnership/Collaboration & Licensing Deals in iPSC Sector.....	82
8.2.1	Cartherics & Catalent.....	83
8.2.2	Applied StemCell, Inc. & Cellipont Bioservices.....	83
8.2.3	GelMEDIX & Catalent .....	83
8.2.4	ISCT & JSRM.....	83
8.2.5	SmartCella Holding & Catalent .....	84
8.2.6	Mytos & Pluristyx.....	84
8.2.7	Cell X Technologies & BioLamina.....	84
8.2.8	Pluristyx & Solesis.....	84
8.2.9	Pluristyx & BioLamia .....	85
8.2.10	Celaid Therapeutics & AGC.....	85
8.2.11	Cellino & Karis Bio .....	85
8.2.12	Ginkgo Bioworks & Universal Cells.....	85
8.2.13	BrightPath Bio & Cellistic .....	86

8.2.14	Alloy Therapeutics & Takeda .....	86
8.2.15	Factor Bioscience & Eterna Therapeutics .....	86
8.2.16	Aspen Neuroscience & Cell X Technologies .....	86
8.2.17	Shinobi Therapeutics & Panasonic .....	87
8.2.18	SCG Cell Therapy and A*STAR .....	87
8.2.19	Charles River Laboratories & Pluristyx .....	87
8.2.20	Pluristyx & National Resilience, Inc .....	87
8.2.21	University of Texas & GeneCure .....	88
8.2.22	BlueRock Therapeutics & Bit.bio .....	88
8.2.23	Applied Stem Cell, Inc. & CIRM .....	88
8.3	Venture Capital Funding in iPSC Sector .....	89
8.3.1	Trailhead Biosystems, Inc. ....	90
8.3.2	Morphocell Technologies, Inc. ....	90
8.3.3	Aspen Neuroscience, Inc. ....	90
8.3.4	Celaid Therapeutics, Inc. ....	91
8.3.5	GC Therapeutics, Inc. ....	91
8.3.6	iRegene Therapeutics .....	91
8.3.7	Gameto .....	92
8.3.8	Pluristyx.....	92
8.3.9	Asgard Therapeutics.....	92
8.3.10	Kenai Therapeutics .....	93
8.3.11	Pluristyx.....	93
8.3.12	Fujifilm Cellular Dynamics.....	93
8.3.13	Mogrify, Ltd. ....	93
8.3.14	Heartseed, Inc. ....	94
8.3.15	Elevate Bio .....	94
9.	GENERATION OF INDUCED PLURIPOTENT STEM CELLS (IPSCS) .....	95
9.1	Reprogramming Factors (OSKM Cocktail/Yamanaka Factors).....	95
9.1.1	Roles of OSKM Factors in the Induction of iPSCs.....	96
9.1.2	Companies offering Reprogramming Services .....	97
9.2	Direct Reprogramming.....	97
9.2.1	Companies offering Direct Reprogramming Services.....	98
9.3	Delivery of Reprogramming Factors.....	99
9.3.1	Currently Favored Reprogramming Factors .....	100
9.3.1.1	Sendai Virus (SeV) Reprogramming (Gold Standard) .....	100
9.3.1.2	mRNA-Based Reprogramming (High Safety).....	100
9.3.1.3	Episomal Plasmid Vectors (Simplicity) .....	100
9.3.1.4	Comparative Efficacies of Reprogramming Methods .....	100
9.4	Genome Editing Technologies in iPSC Generation .....	101
9.4.1	Companies offering CRISPR/Cas9 Services for iPSC Generation .....	101
9.5	Development of iPSC-Derived Organoids .....	102
9.5.1	Companies Developing iPSC-Derived Organoids .....	102
9.6	Development of iPSC-Derived Cardiac Tissue Sheets .....	103
9.7	Development of iPSC-Derived RPE Sheets .....	104
10.	HUMAN IPSC BANKING .....	105
10.1	EBiSC .....	105
10.1.1	IPSCs Available with EBiSC .....	106
10.2	RIKEN BRC .....	107
10.2.1	The iPSC Lines available with RIKEN BRC.....	107
10.3	CiRA.....	107
10.4	WiCell.....	108
10.5	HipSci.....	109
10.6	hPSCreg .....	109
10.7	inStem.....	109

10.8	Coriell Institute for Medical Research .....	110
10.8.1	Cell Lines offered by Coriell .....	110
10.9	Cost Difference for iPSC Lines between Non-Profit Banks and Commercial Providers .....	110
10.10	Cell Sources & Reprogramming Methods in iPSC Banks.....	111
10.11	Ownership and Funding for iPSC Banks.....	111
11.	BIOMEDICAL APPLICATIONS OF IPSCS.....	112
11.1	Applications of iPSCs in Basic Research .....	113
11.1.1	Consumption of iPSC lines in Research .....	114
11.1.2	Providers of iPSC Research Products for Researchers .....	114
11.1.3	Product Categories used in iPSC Research .....	115
11.1.3.1	The iPSC Reprogramming Kits .....	115
11.1.3.2	Culture Media & Reagents used in Research .....	116
11.1.3.3	Differentiated iPS Cells used in Research .....	116
11.1.3.4	3D Organoids from iPSCs for Research .....	117
11.1.3.5	Specialized Services in iPSC Manufacturing .....	118
11.1.3.6	Procurement of iPSC-based Research Products by Researchers .....	119
11.1.3.6.1	Procurement from Commercial Suppliers .....	119
11.1.3.6.2	Procurement from Public and Private Repositories .....	119
11.1.3.6.3	Direct Generation/Custom Services.....	120
11.2	Applications of iPSCs in Drug Discovery.....	120
11.2.1	Applications of iPSCs in Patient-Specific Disease Modeling .....	120
11.2.1.1	Companies offering iPSC-Derived Cardiomyocytes for Drug Discovery .....	121
11.2.1.1.1	Drugs Tested for Cardiovascular Diseases using iPSCs.....	122
11.2.1.2	Companies offering iPSC-derived Neuronal Cells for Drug Discovery .....	123
11.2.1.2.1	Drugs Tested for Neurological Diseases using iPSCs.....	124
11.2.1.3	Companies offering iPSC-Derived RPEs .....	124
11.2.1.3.1	Drugs Tested for Ocular Diseases using iPSC Lines .....	125
11.2.1.4	Companies developing iPSCs to Discover Drugs for Metabolic Diseases .....	126
11.2.1.4.1	Drugs Tested in iPSCs for Metabolic Diseases .....	127
11.2.1.5	Companies Developing iPSCs to Discover Drugs for Blood Disorders .....	127
11.2.1.5.1	Drugs Tested for Blood Disorders using iPSCs .....	128
11.2.1.6	The iPSCs in High-Throughput Screening (HTS) .....	129
11.2.1.7	The iPSCs in Drug Toxicity and Safety Assessment .....	129
11.2.1.7.1	Companies offering Toxicity Testing Services using iPSC-Derived Cells .....	130
11.2.1.7.2	Drugs Tested for their Toxicity using iPSC Lines .....	131
11.2.1.7.3	Relative Use of iPSC-Derived Cell Types used in Toxicity Testing Studies....	132
11.2.1.8	The iPSCs in Personalized Medicine and Genomic Studies .....	133
11.2.3	Applications of iPSC-Derived Cells in Cell Therapies (Regenerative Medicine) .....	133
11.2.3.1	Companies developing iPSC-based Cell Therapies .....	134
11.2.3.2	The Landscape of iPSC-Based Cell Therapy Clinical Trials.....	135
11.2.3.2.1	Key Therapeutic Targets in iPSC-Based Cell Therapy Clinical Trials .....	136
11.2.3.2.2	iPSC-Based Cell Therapy Clinical Trials.....	136
11.2.4	Other Novel Applications of iPSCs .....	137
11.2.4.1	Bioinks for Tissue Engineering.....	138
11.2.4.1.1	Companies developing iPSC-Based Bioinks .....	138
11.2.4.2	The iPSCs in the Conservation of Endangered Species .....	138
11.2.4.2.1	Key Applications of iPSCs Conservation .....	138
11.2.4.2.2	Major Conservation Programs using iPSCs .....	139
11.2.4.2.3	Development of iPSCs from Domestic & Wild Animals .....	139
11.2.4.3	Cultured Meat Production using iPSCs.....	140
11.2.4.3.1	Companies Developing Cultured Meat using iPSCs .....	141
11.3	Cost of iPSC-Based Products & Services .....	141
12.	MARKET ANALYSIS.....	143
12.1	Global Market for Induced Pluripotent Stem Cells (iPSCs) by Geography .....	144

12.2	Global Market for iPSCs by Market Segments .....	146
12.3	Global Market for iPSC-based Reprogramming Technologies .....	147
12.4	Global Market for iPSC-Derived Cell Types .....	149
12.5	Global Market for Manual & Automated iPSC Production Services .....	150
12.5.1	Market Share for Key Modules in iPSC Production .....	150
12.5.2	Market Shares of Products Utilized in iPSC Manufacturing .....	151
12.5.3	Percent Market Share of iPSC-Derived Cells by End-Use, 2025 .....	152
12.6	Key iPSC Market Drivers .....	153
12.7	Key iPSC Market Restraints .....	154
12.8	Predicted Shifts in iPSC market.....	154
12.8.1	Shift from Research to Clinical Applications .....	155
12.8.2	Technological Shifts in Production and Quality .....	155
12.8.3	Application & Therapeutic Shifts .....	155
12.8.4	Regional & Strategic Shifts .....	155
13.	COMPANY PROFILES .....	156
13.1	28bio .....	157
13.1.1	The Nexon™ platform .....	157
13.1.2	CNS-3D Technology .....	158
13.1.3	CNS-3D Organoid Services .....	158
13.1.4	PNS-3D Organoids .....	158
13.1.5	PNS-3D Organoid Services .....	158
13.2	AcceGen .....	159
13.2.3	Treatments for Neurodegenerative Diseases with iPSCs .....	159
13.2.4	AcceGen's Pipeline .....	159
13.3	Accellta, Ltd. ....	160
13.3.1	Accellta's Foodtech .....	160
13.3.2	Accellta's Biotech Services .....	160
13.3.3	Accellta's Core Technology .....	160
13.4	Alder Therapeutics.....	161
13.5	Aldevron.....	162
13.5.1	Key Products and Services for iPSC .....	162
13.6	Allele Biotechnology .....	163
13.6.1	mRNA Reprogramming.....	163
13.6.2	mRNA Differentiation .....	163
13.7	Altos Labs .....	164
13.8	Applied StemCell, Inc. (ASC).....	164
13.8.1	Genome Editing Platforms .....	165
13.8.2	The iPSC Drug Discovery Platform.....	165
13.8.3	The iPSC Gene Editing Services.....	165
13.8.4	The iPSC Differentiation Services.....	165
13.8.5	The iPSC Generation Services .....	166
13.8.6	Product Offerings .....	166
13.9	Arktus Therapeutics, Co., Ltd. ....	167
13.9.1	Technologies .....	167
13.10	Aspen Neuroscience .....	168
13.10.1	Autologous Manufacturing Process.....	168
13.10.2	Aspen's Clinical Pipeline.....	168
13.11	ATCC.....	169
13.11.1	Product Offerings.....	169
13.12	Axxam S.p.A.....	170
13.12.1	The iPSC Platform Capabilities .....	170
13.13	Axol Bioscience .....	171
13.13.1	Products.....	171
13.13.2	Services .....	172
13.13.3	iPSC-derived Models .....	172

13.14	BD Biosciences .....	173
13.14.1	Key Contributions and Tools .....	173
13.15	Bit.bio.....	174
13.15.1	Products & Services .....	174
13.15.1.1	Human iPSC-derived glial cells.....	174
13.16	BlueRock Therapeutics .....	175
13.16.1	BlueRock's Cell Therapy Programs.....	175
13.16.1.1	Neurology Program .....	175
13.16.1.2	Ophthalmology Program .....	176
13.17	BPS Bioscience.....	177
13.17.1	Product Offerings.....	177
13.18	BrainXell .....	178
13.18.1	Product Offerings.....	178
13.18.2	Services Offered.....	178
13.19	BrainZell .....	179
13.19.1	Technology .....	179
13.19.2	Selection of Source Cells.....	179
13.20	BrightPath Biotherapeutics Co., Ltd. ....	180
13.21	Cartherics Pty Ltd.....	181
13.21.1	CTH-401 .....	181
13.21.2	CTH-004 .....	181
13.22	Catalent, Inc. ....	182
13.22.1	Services .....	182
13.23	Celogics.....	183
13.23.1	Custom Cardiomyocytes.....	183
13.24	Celregen Therapeutics .....	184
13.24.1	Core Platform Technologies .....	184
13.24.2	Key iPSC Product Candidates.....	185
13.25	Collectis .....	185
13.25.1	TALEN® Technology .....	185
13.25.2	PulseAgile Technology .....	186
13.26	CellGenix GmbH.....	187
13.26.1	Key Contributions .....	187
13.27	Cellistic .....	188
13.27.1	CDMO Services.....	188
13.27.2	Allo Chassis™ Platform .....	188
13.27.3	STAR-CRISPR™ Technology .....	189
13.27.4	Pulse Cell Line Development Platform .....	189
13.27.5	Cellistic's Echo Manufacturing Platform .....	189
13.27.6	GMP Manufacturing.....	189
13.27.7	ECHO™-NK Platform .....	189
13.27.8	Echo™-Cardio platform .....	190
13.27.9	Echo™-Endothelial Platform .....	190
13.27.10	Echo™-T Platform .....	190
13.28	CellSystems GmbH .....	191
13.28.1	Core Competencies in iPSC Technology .....	191
13.29	Cellusion, Inc. ....	192
13.29.1	CECSI Cells.....	192
13.30	Celregen Therapeutics .....	193
13.30.1	Products in Development.....	193
13.30.1.1	Islet Cells .....	193
13.30.1.2	The iCEnCs .....	194
13.31	Century Therapeutics .....	195
13.31.1	Century's Approach .....	195
13.31.2	Century's Precision Gene Editing Technology .....	195
13.31.2.1	Allo-Evasion™ Technology .....	195

13.31.3	Century's Pipeline Overview.....	196
13.32	Citius Pharmaceuticals, Inc. ....	197
13.32.1	Induced Mesenchymal Stem Cells (i-MSCs).....	197
13.33	clock.bio.....	198
13.33.1	The clock.bio's Platform.....	198
13.33.1.1	The geneAge Atlas of Aging and Rejuvenation Genes.....	198
13.33.1.2	The imAge .....	198
13.33.1.3	The clinAge Platform .....	199
13.34	Creative Medical Technology Holdings, Inc. ....	199
13.34.1	The iPSCelz® Program .....	199
13.35	CUORIPS, Inc.....	200
13.35.1	Conditional Approval for ReHeart in Japan .....	200
13.35.1.1	Treatment Modality for ReHeart.....	200
13.36	Curi Bio, Inc. ....	201
13.36.1	Curi Bio's Biosystem Platforms .....	201
13.36.2	3D Engineered Models .....	202
13.36.3	The Curi Engine™: Custom Services.....	202
13.37	Cynata Therapeutics .....	203
13.37.1	Cymerus™ Technology .....	203
13.37.2	Clinical Development.....	204
13.38	CytoMed Therapeutics Limited.....	205
13.38.1	iPSC-γδ NKT Cell Technology .....	205
13.39	Defined Bioscience, Inc.....	206
13.39.1	Products for Disease Modeling.....	206
13.40	Editas Medicine .....	207
13.40.1	Edita's iPSC Platform .....	207
13.41	EditCo Bio, Inc.....	208
13.41.1	Services .....	208
13.41.2	CRISPR Reagents & Kits .....	208
13.42	ErneXa Therapeutics.....	209
13.43	Esco Lifesciences.....	210
13.43.1	Key Contributions .....	210
13.44	Evotec.....	211
13.44.1	Services .....	211
13.45	Eyestem Research Pvt. Ltd.....	212
13.45.1	Eyecyte-RPE™ .....	212
13.45.2	Eyecyte-PRPTM .....	212
13.45.3	AAV mediated gene augmentation.....	213
13.46	Factor Biosynthesis, Inc. ....	213
13.46.1	The mRNA Reprogramming Technology Platforms.....	213
13.46.2	UltraSlice™ Gene Editing Technology Platforms.....	214
13.47	Fate Therapeutics, Inc.....	214
13.47.1	Fate Therapeutics' iPSCs Platform .....	215
13.47.2	Fate Therapeutics' Pipeline Overview .....	215
13.48	FUJIFILM Cellular Dynamics.....	216
13.48.1	Products.....	216
13.48.2	Custom Services.....	216
13.48.3	The iPSC CDMO Services.....	217
13.49	Gameto, Inc. ....	217
13.49.1	Gameto's Science.....	217
13.49.1.1	Fertilo.....	218
13.49.1.2	Ameno .....	218
13.49.1.3	Deovo .....	218
13.50	GC Therapeutics .....	219
13.50.1	TFome™ Platform .....	219
13.51	GenScript.....	220

13.51.1	iPSC-Related Services .....	220
13.51.2	iPSC-Related Products.....	220
13.52	GOLIVER THERAPEUTICS.....	221
13.52.1	GOLIVER Solution.....	221
13.53	Greenstone Biosciences .....	222
13.53.1	Products.....	222
13.53.2	Services .....	223
13.54	Healios K.K.....	224
13.55	HeartBeat.bio AG .....	225
13.55.1	Cardioids (Cardiac Organoids) .....	225
13.55.1.1	Cardioid Drug Discovery Platform .....	225
13.55.2	Disease Models .....	226
13.55.3	Assays .....	226
13.55.4	Drug Discovery Strategy.....	226
13.56	Heartseed, Inc. ....	227
13.56.1	Remuscularization Technology .....	227
13.56.2	Cardiomyocyte Spheroid .....	227
13.57	Hebecell Corporation.....	228
13.57.1	ProtoNK™.....	228
13.57.2	Contract Manufacturing Services .....	228
13.58	HELP Therapeutics .....	230
13.59	Herophilus .....	231
13.59.1	Herophilus' Approach .....	231
13.60	Hesperos, Inc. ....	232
13.60.1	Human-on-a-Chip®.....	232
13.61	Horizon Discovery .....	233
13.62	HUB Organoids BV .....	234
13.62.1	Products.....	234
13.63	iCamuno Biotherapeutics .....	235
13.63.1	Transient Naïve Treatment (TNT) .....	235
13.64	iHeart Japan Corporation .....	236
13.64.1	Contract Services .....	236
13.65	IN8Bio.....	237
13.65.1	INB-500.....	237
13.66	InSphero .....	238
13.66.1	Products & Services .....	238
13.67	iPeace, Inc.....	239
13.67.1	Products.....	239
13.67.2	Manufacturing Service .....	239
13.68	iPS Academia Japan, Inc. ....	240
13.68.1	Key Aspects of iPS Academia Japan, Inc. ....	240
13.69	IPS HEART.....	241
13.69.1	Proprietary Platform.....	241
13.69.1.1	ISX9-CPC .....	241
13.69.1.2	GIVI-MPC .....	241
13.70	iPSirius .....	242
13.70.1	iPVAC Technology.....	242
13.70.2	iPSirius' Pipeline .....	243
13.71	iRegene Therapeutics .....	244
13.71.1	iReDita Platform.....	244
13.72	iXCells Biotechnologies.....	245
13.72.1	iXCells' Core Services .....	245
13.72.2	Products.....	246
13.72.2.1	Organoids .....	246
13.73	iXgene, Inc.....	247
13.73.1	Technology .....	247

13.74	Jacobio Pharmaceuticals .....	248
13.74.1	Jacobio's iPSC Collaboration with Hebecell .....	248
13.75	Kangstem Biotech .....	249
13.76	Kenai Therapeutics .....	250
13.76.1	Kenai's iPSC Platform .....	250
13.76.2	Kenai's Pipeline .....	250
13.77	Khloris Biosciences, Inc. ....	251
13.78	Kiji Therapeutics .....	252
13.79	Lambda Biologics GmbH.....	253
13.79.1	Organoid Services .....	253
13.80	Laverock Therapeutics .....	254
13.80.1	iPSC-derived Cell Therapies .....	254
13.81	Lineage Cell Therapeutics.....	255
13.82	Lonza.....	256
13.82.1	Key Contributions .....	256
13.83	Megakaryon Corporation .....	257
13.83.1	Technology .....	257
13.83.2	Megakaryons R&D Pipeline.....	258
13.84	Miltenyi Biotec, Inc. ....	259
13.84.1	Tools for Manual iPSC Workflows .....	259
13.84.2	Automated and Closed iPSC Manufacturing .....	260
13.85	Morphocell Technologies, Inc.....	260
13.85.1	ReLiver.....	260
13.86	Myoridge Co. Ltd. ....	261
13.86.1	Products & Services .....	261
13.87	Ncardia .....	262
13.87.1	Products.....	262
13.87.2	Services .....	262
13.88	NeuCyte, Inc.....	263
13.88.1	Technology .....	263
13.88.2	NeuCyte's Services .....	263
13.89	Neukio Biotherapeutics .....	264
13.90	NEXEL.....	264
13.90.1	Organoids .....	264
13.90.2	iPSC Derived Cells .....	265
13.90.3	Instruments .....	265
13.90.4	NeXST (Next Xight Screening Test) .....	265
13.90.5	Disease Modeling .....	265
13.90.6	Cell Customization .....	265
13.90.7	Services .....	266
13.91	Okomera.....	266
13.91.1	Ocentra .....	266
13.92	Organovo Holdings, Inc.....	267
13.92.1	Product Pipeline.....	267
13.93	Orizuru Therapeutics.....	268
13.94	Oxford StemTech .....	269
13.94.1	Services Offered .....	269
13.95	Parallel Bio .....	270
13.96	Pixl Bio, Ltd.....	270
13.96.1	Platform.....	270
13.96.2	Products.....	271
13.96.2.1	The pixStellate iPSC-derived Stellate Cells .....	271
13.96.2.2	pixHep/pixStellate Co-Culture Models .....	271
13.96.2.3	MASLD (Metabolic Dysfunction-Associated Steatotic Liver Disease) Models.....	271
13.96.2.4	The pixHep A1ATD (Alpha-1 Antitrypsin Deficiency) Models .....	271
13.96.2.5	The pixHep PFIC2 (Progressive Familial Intrahepatic Cholestasis Type 2) Model.....	272

13.96.2.6	The pixHep UCD (Urea Cycle Disorder) Models (ASS1, and OTC)	272
13.97	Pluristyx, Inc.	273
13.97.1	FailSafe Cell System	273
13.97.1	iACT Stealth Cells™	273
13.97.2	Products	274
13.97.2.1	PluriBank™	274
13.97.2.2	PluriForm™ Kit	274
13.97.2.3	PluriFreeze™ Cryopreservation System	274
13.97.2.4	PluriKit™	274
13.97.3	iPSC Generation	275
13.97.4	Differentiated Cells	275
13.98	Porosome Therapeutics, Inc.	276
13.98.1	iPSC Derived Beta Cell T1D Therapy	276
13.99	Quell Therapeutics Ltd	277
13.99.1	Collaboration for iPSCs	277
13.100	Racthera Co., Ltd.	278
13.100.1	Amchepry®	278
13.100.2	Racthera's Retinal Sheet (DSP-3077)	279
13.100.3	Racthera's Retinal pigment epithelial cells (HLCR011)	279
13.100.4	Racthera's Neural progenitor cells (SMP-0115)	280
13.101	Rege Nephro, Co., Ltd.	281
13.101.1	RN-032	281
13.102	Repairon GmbH	282
13.102.1	Technology	282
14.103	ReproCELL	283
13.103.1	Services	283
13.103.2	Product Offerings	284
13.103.3	ReproCELL's Clinical Pipelines	285
13.104	Res Nova Biologics	286
13.105	Ricoh Biosciences, Inc.	287
13.105.1	Products	287
13.105.2	Ricoh's iPSC-related Services	288
13.105.3	Ricoh's Therapeutics Development Pipeline	288
13.106	Sampled	289
13.106.1	Services	289
13.107	Sana Biotechnology	290
13.108	Sarcio, Inc.	291
13.108.1	SEV-101	291
13.108.2	SEVA-101	291
13.109	SCG Cell Therapy, Pte. Ltd.	292
13.110	SereNeuro Therapeutics	292
13.111	Shinobi Therapeutics	293
13.112	STEMCELL Technologies	294
13.112.1	Services	294
13.113	StemCardia	295
13.113.1	Core Product & Technology	295
13.115	StemSight	296
13.115.1	StemSight's Technology	296
13.116	Stemson Therapeutics	297
13.116.1	KeyProduct & Service Portfolio	297
13.117	Stimuliver	298
13.118	Sumitomo Pharma	299
13.119	Synthego	300
13.119.1	Core Capabilities	300
13.120	Telescope Therapeutics	301
13.120.1	Core Cellular & Technology Platforms	301

13.121	Tempo Bioscience .....	302
13.121.1	Peroducts.....	302
13.122	Tenaya Therapeutics.....	303
13.122.1	Drug Development Capability .....	303
13.122.2	Disease Models .....	303
13.123	TGD Life Company Limited .....	304
13.123.1	R&D Services .....	304
13.124	Thermo Fisher Scientific Inc.....	305
13.124.1	Key Contributions .....	305
13.125	Tolerance Bio .....	306
13.126	Trailhead Biosystems® .....	306
13.126.1	HD-DoE (high-dimensional design-of-experiments) technology .....	307
13.126.2	Trailhead’s Hematopoietic Progenitor Cells .....	307
13.126.3	hiPSC-derived Dopaminergic Neurons.....	307
13.126.4	hiPSC-derived Pancreatic Beta Cells .....	307
13.127	TreeFrog Therapeutics.....	308
13.127.1	C-Stem™ .....	308
13.128	Vanqua Bio .....	309
13.128.1	Pipeline .....	309
13.129	Vascugen, Inc.....	310
13.129.1	Core Technology & Approach .....	310
13.130	VCCT Inc.....	311
13.130.1	VCCT’s Product Candidates.....	311
13.131	Vertex Pharmaceuticals .....	313
13.131.1	Key iPSC-Based Products & Programs.....	313
13.132	Vivodyne.....	314
13.132.1	Lab-Grown Organs .....	314
13.133	Yashraj Biotechnology, Ltd.....	315
13.133.1	Products.....	315
13.133.1.1	Induced Pluripotent Stem Cell (iPSC) Lines .....	315
13.133.1.2	iPSC-Derived Cardiomyocytes (YBLiCardio) .....	316
13.133.1.3	iPSC-Derived Hepatocytes Like Cells (YBLiHepato) .....	316

## **INDEX OF FIGURES**

FIGURE 5.1: Rapid Growth of iPSC Publications in PubMed.gov.....	39
FIGURE 5.2: PubMed Published iPSC Papers on Pathophysiological Studies .....	40
FIGURE 5.3: PubMed Published iPSC Papers on Reprogramming Studies .....	41
FIGURE 5.4: PubMed Published Papers on iPSC Differentiation Studies .....	42
FIGURE 5.5: PubMed Published Papers on iPSC-based Drug Discovery.....	43
FIGURE 5.6: PubMed Published Papers on iPSC-based Cell Therapy .....	44
FIGURE 6.1: Number of iPSC Patents filed per Year, 2000-April 3, 2026 .....	49
FIGURE 7.1: iPSC Clinical Trials by Study Designs.....	67
FIGURE 7.2: Therapeutic & Non-Therapeutic iPSC Clinical Trials .....	68
FIGURE 7.3: Non-Therapeutic iPSC Clinical Trials by Use.....	69
FIGURE 7.4: Percent Share of Diseases Targeted by Therapeutic Studies .....	70
FIGURE 7.5: iPSC Clinical Trials by Funder Type .....	76
FIGURE 7.6: Geographic Distribution of iPSC Clinical Trials .....	78
FIGURE 9.1: Roles of OSKM Factors in the Induction of iPSCs .....	96
FIGURE 9.2: Delivery Methods for Reprogramming Factors .....	99
FIGURE 11.1: Biomedical Applications of iPSCs .....	112

FIGURE 11.2: Potential of iPSCs in Toxicity Testing and Drug Screening ..... 130  
 FIGURE 11.3: Relative Use of iPSC-Derived Cell Types used in Toxicity Testing Studies ..... 132

FIGURE 12.1: Global Market for iPSCs by Geography, 2025-2034..... 145  
 FIGURE 12.2: Global Market for iPSCs by Market Segments..... 147  
 FIGURE 12.3: Global Market for iPSC-Related Reprogramming Technologies, 2026-2034 ..... 148  
 FIGURE 12.4: Global Market for iPSC-Derived Cell Types, 2025..... 149  
 FIGURE 12.5: Global Market for Manual & Automated iPSC Production Services, 2025 ..... 150  
 FIGURE 12.6: Market Share for Key Modules in iPSC Production, 2025 ..... 151  
 FIGURE 12.7: Market Shares of Products Utilized in iPSC Manufacturing, 2025 ..... 152  
 FIGURE 12.8: Percent Market Share of iPSC-Derived Cells by End-Use, 2025 ..... 153

**INDEX OF TABLES**

TABLE 3.1: Examples of iPSC-based Autologous & Allogeneic Products in Phase II ..... 24  
 TABLE 3.2: Disease Areas Focused by iPSC-based Clinical Trials..... 25  
 TABLE 3.3: Companies Providing AI-Powered Automation Services ..... 26  
 TABLE 3.4: Key Platforms used in Automatic iPSC Production ..... 28

TABLE 4.1: Donor Selection and Screening Process..... 32  
 TABLE 4.2: Common Sources of Somatic Cells for Reprogramming into iPSCs..... 33  
 TABLE 4.3: Key Reprogramming Vectors used in iPSC Generation ..... 34  
 TABLE 4.4: Methods of selecting iPSC Colonies after Reprogramming ..... 34  
 TABLE 4.5: Examples of Differentiated Cell Types from iPSCs ..... 35  
 TABLE 4.6: Examples of iPSC-Derived Organoids ..... 36

TABLE 5.1: Landmark Publications in iPSC Research..... 37  
 TABLE 5.2: Rapid Growth of iPSC Publications in PubMed.gov..... 38  
 TABLE 5.3: Anticipated advancements in iPSC-based therapeutic applications ..... 45  
 TABLE 5.4: Enhanced Disease Modeling and Drug Discovery ..... 46  
 TABLE 5.5: Technological Innovations and Automation..... 46

TABLE 6.1: Number of Patents filed per year, 1993-April 3, 2026 ..... 48  
 TABLE 6.2: iPSC Patent Applications by Jurisdiction as of April 3, 2026 ..... 50  
 TABLE 6.3: Top 100 iPSC Patent Applicants as of April 3, 2026 ..... 52  
 TABLE 6.3: (CONTINUED) ..... 53  
 TABLE 6.3: (CONTINUED) ..... 54  
 TABLE 6.4: Top 100 Inventors of iPSC Patent Applications ..... 55  
 TABLE 6.4: (Continued) ..... 56  
 TABLE 6.4: (CONTINUED) ..... 57  
 TABLE 6.5: Top 100 Owners of iPSC Patent Applications ..... 58  
 TABLE 6.5: (CONTINUED) ..... 59  
 TABLE 6.5: (CONTINUED) ..... 60  
 TABLE 6.6: Legal Status of iPSC Patent Applications as of April 4, 2026 ..... 61  
 TABLE 6.7: Recently Granted iPSC Patents (2024-2026) ..... 62  
 TABLE 6.8: Licensing Fees for iPSC Patents..... 64

TABLE 7.1: Late-Stage iPSC Clinical Trials & Progress ..... 65  
 TABLE 7.2: Recruitment Status of iPSC Clinical Trials, 2023-2026..... 66  
 TABLE 7.3: Select Clinical Trials in Ocular Diseases ..... 71  
 TABLE 7.4: Select Clinical Trials Focusing on CNS Disorders ..... 72  
 TABLE 7.5: Select Clinical Trials Focusing on iPSC-Based Cardiomyocytes and Muscle Products..... 72  
 TABLE 7.6: Select Clinical Trials focusing on iPSC-Based in Immune and Blood Products ..... 73  
 TABLE 7.7: Select Stromal Products in Clinical Trials..... 74

TABLE 7.8: iPSC-based Clinical Trials by Phase of Study.....	75
TABLE 7.9: Geographic Distribution of iPSC Clinical Trials .....	77
TABLE 7.10: Key Future Directions of iPS-Based Trials .....	79
TABLE 8.1: M&A Deals signed in iPSC Sector, 2023-2026 .....	80
TABLE 8.2: Collaboration/Partnership & Licensing Deals in iPSC Sector, 2023-2026 .....	82
TABLE 8.3: Venture Capital Funding Raised by iPSC Companies, 2021-April 2026.....	89
TABLE 9.1: Core Reprogramming Factors (OSKM).....	96
TABLE 9.2: Top Companies offering iPSC Reprogramming Services .....	97
TABLE 9.3: Key Combination of Factors for Direct Reprogramming.....	98
TABLE 9.4: Companies Involved in Direct Reprogramming Services .....	98
TABLE 9.5: Efficacy of iPSC Reprogramming Methods .....	101
TABLE 9.6: Companies offering CRISPR/Cas9 Services for iPSC Generation .....	102
TABLE 9.7: Key Companies developing iPSC-Derived Organoids .....	103
TABLE 9.8: Key Companies developing iPSC-Derived Cardiac Tissue Sheets .....	103
TABLE 9.9: Companies developing iPSC-Derived RPE Sheets .....	104
TABLE 10.1: Key Human iPSC Banks.....	105
TABLE 10.2: iPSC Lines available with EBiSC.....	106
TABLE 10.3: Price List for CiRA's Clinical Grade iPSCs .....	108
TABLE 10.4: Cell Types Banked by WiCell .....	108
TABLE 10.5: iPS Cell Lines in Coriell's Collection .....	110
TABLE 10.6: Cell Sources & Reprogramming Methods in iPSC Banks .....	111
TABLE 10.7: Ownership & Funding for iPSC Banks .....	111
TABLE 11.1: Top Providers of iPSC Research Products for Researchers .....	114
TABLE 11.2: Commonly used iPSC Reprogramming Kits .....	115
TABLE 11.3: Commonly used Culture Media and Reagents in Research .....	116
TABLE 11.4: Key Companies offering iPSC-Derived Cell Types for Research .....	117
TABLE 11.5: Companies providing iPSC-Derived 3D Organoids for Research.....	117
TABLE 11.6: Companies offering iPSCs-related Specialized Services.....	118
TABLE 11.6: (CONTINUED) .....	119
TABLE 11.7: Key Companies involved in Patient-Specific Disease Modeling .....	121
TABLE 11.8: Companies offering iPSC-Derived Cardiomyocytes for Drug Discovery.....	121
TABLE 11.9: Cardiovascular Drugs Tested in iPSC Models .....	122
TABLE 11.10: Companies offering iPSC-derived Neuronal Cells for Drug Discovery .....	123
TABLE 11.11: Drugs Tested for Neurological Diseases using iPSCs .....	124
TABLE 11.12: Companies offering iPSC-Derived RPEs .....	125
TABLE 11.13: Drugs Tested for Ocular Diseases using iPSC Lines .....	125
TABLE 11.14: Companies developing iPSCs to Discover Drugs for Metabolic Diseases .....	126
TABLE 11.15: Drugs Tested in iPSCs for Metabolic Diseases.....	127
TABLE 11.16: Companies developing iPSCs to Discover Drugs for Blood Disorders .....	128
TABLE 11.17: Drugs Tested for Blood Disorders using iPSCs .....	128
TABLE 11.18: Key Companies offering HTS Services using iPSCs .....	129
TABLE 11.19: Companies offering Toxicity Testing Services using iPSCs.....	131
TABLE 11.20: Drugs Tested for their Toxicity using iPSC Lines .....	131
TABLE 11.21: Companies using iPSCs in Personalized Medicine and Genomic Studies .....	133
TABLE 11.22: Key Applications of iPSC-Derived Cells in Cell Therapy.....	134
TABLE 11.23: Key Players & Focus Areas in iPSC-Based Cell Therapy.....	135
TABLE 11.24: Key Therapeutic Targets in iPSC-Based Cell Therapy Clinical Trials.....	136
TABLE 11.25: Select iPSC-Based Cell Therapy Clinical Trials .....	137
TABLE 11.26: Major Conservation Initiatives & Species .....	139
TABLE 11.27: Companies developing Cultured Meat using iPSC-Derived Cells.....	141
TABLE 12.1: Global Market for iPSCs by Geography, 2025-2034 .....	145

TABLE 12.2: Global Market for iPSCs by Market Segments .....	146
TABLE 12.3: Global Market for iPSC-Related Reprogramming Technologies, 2026-2034 .....	148
TABLE 13.1: AcceGen’s Pipeline Product Candidates.....	159
TABLE 13.2: Aspen’s Clinical Pipeline .....	168
TABLE 13.3: BlueRock’s Pipeline Focusing on New Therapies.....	176
TABLE 13.4: BrightPath’s Product Pipeline .....	180
TABLE 13.5: Cartheric’s R&D Pipeline of Allogeneic Products .....	182
TABLE 13.6: Celregen’s Key iPSC Product Candidates .....	185
TABLE 13.7: Cellectis’ Main Product Candidates.....	186
TABLE 13.8: Celregen’s Product Pipeline .....	193
TABLE 13.9: Century Therapeutics’ Pipeline Overview .....	196
TABLE 13.10: Cynata’s Clinical Pipeline .....	204
TABLE 13.11: Factor Bioscience’s iPSC-Based Clinical Trials .....	214
TABLE 13.12: Fate Therapeutics’ Pipeline Overview .....	215
TABLE 13.13: Gameto’s Pipeline .....	218
TABLE 13.14: Greenstone’s Pipeline .....	223
TABLE 13.15: Healios’ Research and Development Status.....	224
TABLE 13.16: Hebecell’s Pipelines .....	229
TABLE 13.17: HELP’s R&D Pipeline .....	230
TABLE 13.18: Herophilus’ Pipeline Development using Organoids .....	231
TABLE 13.19: Key Available Organoid Types with HUB .....	234
TABLE 13.20: iCamuno’s Product Pipeline .....	235
TABLE 13.21: IPS HEART’s Pipeline .....	242
TABLE 13.22: iPSirius’ Pipeline .....	243
TABLE 13.23: iRegene’s Pipelines .....	244
TABLE 13.24: Kenai’s Pipeline .....	251
TABLE 13.25: Khloris’ iPSC Product Development Stages and Diseases Addressed .....	251
TABLE 13.26: Kiji’s R&D Pipeline .....	252
TABLE 13.27: Laverock’s Pipeline.....	254
TABLE 13.28: Pipeline from Lineage Cell Therapeutics.....	255
TABLE 13.29: Megakaryon’s R&D Pipeline.....	258
TABLE 13.30: Morphocell’s Pipeline.....	261
TABLE 13.31: ReproCELL’s Clinical Pipelines Currently under Development.....	285
TABLE 13.32: Ricoh’s Therapeutics Development Pipeline .....	288
TABLE 13.33: Sana’s Product Candidates .....	290
TABLE 13.34: Sumitomo’s iPSC Products in Development .....	299
TABLE 13.35: Vanqua Bio’s Pipeline.....	309
TABLE 13.36: Vascugen’s Product Pipeline.....	310
TABLE 13.37: VCCT’s Pipeline .....	311



## About BioInformant

Founded in 2006, BioInformant is the world's first and only market research firm to specialize in the stem cell industry. Headquartered near Washington, DC, to be situated near the U.S. FDA, NIH, and Capitol Hill, BioInformant has collected 18+ years of historical data on the stem cell industry, providing a robust and unusual foundation on which to base its market research.

To date, BioInformant research has been cited by the *Wall Street Journal* and *Vogue Magazine*, as well as quoted by Tony Robbins in his best-selling book, *LifeForce*.

BioInformant operates the world's largest stem cell industry news site, attracting nearly a million readers per year.

Serving Fortune 500 leaders that include GE Healthcare, Pfizer, and Goldman Sachs, BioInformant is your global leader in stem cell industry data.

