

Human Organoids Market by Product (Liver, Kidney, Pancreatic Models (2D, 3D)), Disease Area (Oncology, GI, Neurological Disorders), Application (Drug Toxicity, Personalized Medicine), End User (Pharma & Biotech Companies, CROs) - Global Forecast to 2029

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Report description:

The value of the human organoids market will increase from an estimated USD 1.19 billion in 2024 to USD 2.33 billion in 2029, at a CAGR of 14.4% through the forecast period.

Advancement in funding for research in human organoids directly promotes the growth of the market for organoids with significant improvement in research capabilities and increases the scope of applications. Financial support brings scientists to explore organoids in various fields, such as cancer, neurodegenerative diseases, and drug development, which attracts pharmaceutical and biotech companies. A more commercialized version of the organoid technologies along with a clear regulatory framework will even further ease access to the market. This, in turn, is fuelling the growth of the global human organoids market. Although the growing interest in human organoids provides a major market potential, there is a dearth of skilled labor. With such increasing demand in innovative organoid technology, the shortage of qualified personnel who are able to develop and use such complex models has become a challenge to the continued research and commercialization effort.

"Developmental biology segment is expected to have the fastest growth rate in the human organoids market, by application, during the forecast period."

The human organoids market is segmented into developmental biology, drug toxicity & efficacy testing, disease pathology, personalized medicine, regenerative medicine, and other applications, based on application. Human organoids represent an essentially much more ethically compliant and efficient alternative to studying human-specific developmental biology and the processes leading to disease. It is therefore increasingly being applied, especially in academic and research centers specializing in developmental biology.

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"Pharmaceutical & biotechnology companies segment accounted for the highest growth rate in the human organoids market, by end user, during the forecast period."

Based on end user, the human organoids market is bifurcated into pharmaceutical & biotechnology companies, contract research organizations, academic & research institutes, and other end users. The pharmaceutical and biotechnology companies segment is expected to grow at the highest CAGR in the market of human organoids mainly due to their intense research and development activities, where they use organoids in drug discovery, disease modeling, and personalized medicine. These companies employ organoids in developing new drugs and testing them for the efficacy and toxicity of the drug, besides gaining insights into the complexities of a disease at a cellular level.

"Asia Pacific: The fastest-growing region in human organoids market."

The worldwide market for human organoids is categorized into North America, Europe, Asia Pacific, Latin America, the Middle East & Africa, and GCC Countries. Notably, the Asia-Pacific region marks the highest CAGR in the human organoids market, due to increasing investments into healthcare infrastructure and research that advance the capabilities of medical facilities. In addition to this, the number of rapidly aging patients strongly demands effective treatments for diseases related to age. Consequently, human organoids act as great models for the study of such conditions. The growing medical tourism activities in the APAC region also happen to be of great influence for the market, given the rapid increase of patients seeking advanced treatments and high-class healthcare services. These factors, collectively, have put the APAC region on a growth trajectory for human organoids markets.

The break-up of the profile of primary participants in the human organoids market:

-□By Company Type: Tier 1 - 40%, Tier 2 - 30%, and Tier 3 - 30%

-□By Designation: C-level - 27%, D-level - 18%, and Others - 55%

-□By Region: North America - 51%, Europe - 21%, Asia Pacific - 18%, Latin America - 6%, and Middle East & Africa - 4%

The key players in this market are Thermo Fisher Scientific Inc. (US), Corning Incorporated (US), Merck KGaA (Germany), BioIVT (US), HUB Organoids BV (Netherlands), BICO (Sweden), BeCytes Biotechnologies SL (Spain), InSphero (Switzerland), GBA Group (Germany), Kirkstall Ltd. (UK), MIMETAS BV (Netherlands), Neuromics (US), PRIMACYT Cell Culture Technology GmbH (Germany), STEMCELL Technologies (Canada), ACROBiosystems (China), Biopredic International (France), CN Bio Innovations Ltd. (UK), CYPRIO (France), Emulate, Inc. (US), Kerafast, Inc. (US), Pandorum Technologies Pvt. Ltd (India), CYFUSE BIOMEDICAL K.K. (Japan), NeyroblastGX LLC (US), 3Dnatics Inc. (US), and DefiniGEN Limited (UK).

Research Coverage:

This research report categorizes the human organoids market by product (Liver models, kidney models, pancreatic models, colorectal models, heart models, lung models, other products), by source (adult stem cells, induced pluripotent stem cells, embryonic stem cells, other sources), by type (ready-to-use products, customizable products), by culture method (air-liquid interface culture, suspension culture, matrigel matrix culture, 3d bioprinting culture, and other culture methods), by disease area (oncology, liver diseases, gastrointestinal diseases, cardiovascular diseases, infectious diseases, neurological disorders, and other disease areas), by application (developmental biology, drug toxicity & efficacy testing, disease pathology, personalized medicine, regenerative medicine, and other applications), by end user (pharmaceutical & biotechnology companies, contract research organizations, academic & research institutes, and other end users), and region (North America, Europe, Asia Pacific, Latin America, the Middle East & Africa, and GCC countries). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, opportunities, and challenges influencing the growth of the human organoids market. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions, key strategies, acquisitions, and agreements. New product & service launches, and recent developments associated with the human organoids market. Competitive analysis of upcoming startups in the human organoids market ecosystem is covered in this report.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall human organoids market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

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The report provides insights on the following pointers:

-□Analysis of key drivers (Growing focus on developing alternatives to animal testing, rising R&D funding and venture capital investments, increasing research on organoids, increasing prevalence of non-alcoholic fatty liver disease , and need for early detection of drug toxicity to minimize financial losses caused by late-stage drug failure), opportunities (Increasing focus on drug discovery activities, rising demand for organ transplantation, and growth opportunities in emerging economies), restraints (Issues related to incorporating organoids into existing workflows), and challenges (Dearth of skilled professionals) influencing the growth of the human organoids market.

-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the human organoids market.

-□Market Development: Comprehensive information about lucrative markets - the report analyses the human organoids market across varied regions.

-□Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the human organoids market.

-□Competitive Assessment: In-depth assessment of market shares, growth strategies, product offerings of leading players like Thermo Fisher Scientific Inc. (US), Corning Incorporated (US), Merck KGaA (Germany), BioIVT (US), and HUB Organoids BV (Netherlands).

Table of Contents:

1	INTRODUCTION	38
1.1	STUDY OBJECTIVES	38
1.2	MARKET DEFINITION	38
1.3	STUDY SCOPE	39
1.3.1	MARKETS COVERED & REGIONAL SCOPE	39
1.3.2	INCLUSIONS & EXCLUSIONS	40
1.3.3	YEARS CONSIDERED	41
1.3.4	CURRENCY CONSIDERED	41
1.4	STAKEHOLDERS	41
1.5	SUMMARY OF CHANGES	42
2	RESEARCH METHODOLOGY	43
2.1	RESEARCH DATA	43
2.2	RESEARCH APPROACH	43
2.2.1	SECONDARY DATA	44
2.2.1.1	Key data from secondary sources	44
2.2.2	PRIMARY DATA	45
2.2.2.1	Primary sources	46
2.2.2.2	Key data from primary sources	46
2.2.2.3	Key industry insights	48
2.2.2.4	Breakdown of primary interviews	48
2.3	MARKET SIZE ESTIMATION	49
2.3.1	BOTTOM-UP APPROACH	49
2.3.1.1	Approach 1: Company revenue estimation approach	50
2.3.1.2	Approach 2: Presentations of companies and primary interviews	50
2.3.1.3	Growth forecasts	50
2.3.1.4	CAGR projections	51
2.3.2	TOP-DOWN APPROACH	51
2.4	MARKET BREAKDOWN AND DATA TRIANGULATION	52
2.5	MARKET SHARE	53

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2.6	ASSUMPTIONS & LIMITATIONS	54
2.6.1	STUDY ASSUMPTIONS	54
2.6.2	GROWTH RATE ASSUMPTIONS	54
2.6.3	LIMITATIONS	55
2.7	RISK ASSESSMENT	55
2.7.1	RISK ASSESSMENT: HUMAN ORGANOIDS MARKET	55
3	EXECUTIVE SUMMARY	56
4	PREMIUM INSIGHTS	63
4.1	HUMAN ORGANOIDS MARKET OVERVIEW	63
4.2	HUMAN ORGANOIDS MARKET, BY PRODUCT, 2024 VS. 2029	63
4.3	HUMAN ORGANOIDS MARKET, BY SOURCE, 2024 VS. 2029	64
4.4	HUMAN ORGANOIDS MARKET, BY TYPE, 2024 VS. 2029	64
4.5	HUMAN ORGANOIDS MARKET, BY APPLICATION, 2024 VS. 2029	65
4.6	HUMAN ORGANOIDS MARKET, BY END USER, 2024 VS. 2029	65
4.7	HUMAN ORGANOIDS MARKET: GEOGRAPHIC GROWTH OPPORTUNITIES	66
5	MARKET OVERVIEW	67
5.1	INTRODUCTION	67
5.2	MARKET DYNAMICS	67
5.2.1	DRIVERS	68
5.2.1.1	Growing focus on developing alternatives to animal testing	68
5.2.1.2	Rising R&D funding and venture capital investments	69
5.2.1.3	Increasing research on organoids	70
5.2.1.4	Increasing prevalence of non-alcoholic fatty liver disease	70
5.2.1.5	Need for early detection of drug toxicity to minimize financial losses caused by late-stage drug failure	71
5.2.2	RESTRAINTS	72
5.2.2.1	Issues related to incorporating organoids into existing workflows	72
5.2.3	OPPORTUNITIES	72
5.2.3.1	Increasing focus on drug discovery activities	72
5.2.3.2	Rising demand for organ transplantation	74
5.2.3.3	Growth opportunities in emerging economies	75
5.2.4	CHALLENGES	75
5.2.4.1	Dearth of skilled professionals	75
5.3	PRICING ANALYSIS	76
5.3.1	AVERAGE SELLING PRICE, BY PRODUCT	76
5.3.2	AVERAGE SELLING PRICE, BY REGION	77
5.4	PATENT ANALYSIS	78
5.4.1	LIST OF MAJOR PATENTS	79
5.5	VALUE CHAIN ANALYSIS	80
5.6	SUPPLY CHAIN ANALYSIS	82
5.7	TRADE ANALYSIS	83
5.7.1	IMPORT DATA (HS CODE 3002)	83
5.7.2	EXPORT DATA (HS CODE 3002)	84
5.8	ECOSYSTEM ANALYSIS	84
5.8.1	ROLE IN ECOSYSTEM	85
5.9	PORTER'S FIVE FORCES ANALYSIS	86
5.9.1	THREAT OF NEW ENTRANTS	87
5.9.2	THREAT OF SUBSTITUTES	87

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5.9.3	BARGAINING POWER OF BUYERS	87
5.9.4	BARGAINING POWER OF SUPPLIERS	88
5.9.5	INTENSITY OF COMPETITIVE RIVALRY	88
5.10	KEY STAKEHOLDERS AND BUYING CRITERIA	88
5.10.1	KEY STAKEHOLDERS IN BUYING PROCESS	88
5.10.2	KEY BUYING CRITERIA	89
5.11	REGULATORY LANDSCAPE	89
5.11.1	KEY REGULATIONS	90
5.11.1.1	North America	90
5.11.1.1.1	US	90
5.11.1.1.2	Canada	90
5.11.1.2	Europe	90
5.11.1.3	Asia Pacific	91
5.11.1.3.1	China	91
5.11.1.3.2	Japan	91
5.11.1.3.3	India	91
5.11.1.4	Latin America	91
5.11.1.4.1	Brazil	91
5.11.1.4.2	Mexico	92
5.11.1.5	Middle East & Africa	92
5.11.2	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	92
5.11.2.1	North America	92
5.11.2.2	Europe	93
5.11.2.3	Asia Pacific	93
5.11.2.4	Latin America	94
5.11.2.5	Rest of the world	94
5.12	TECHNOLOGY ANALYSIS	94
5.12.1	KEY TECHNOLOGIES	95
5.12.1.1	Stem Cell Technology	95
5.12.2	COMPLEMENTARY TECHNOLOGIES	95
5.12.2.1	3D Bioprinting	95
5.12.3	ADJACENT TECHNOLOGIES	95
5.12.3.1	Organ-on-a-Chip	95
5.13	KEY CONFERENCES AND EVENTS IN 2024-2025	96
5.14	TRENDS/DISRUPTIONS IMPACTING CUSTOMER'S BUSINESS	97
5.15	INVESTMENT AND FUNDING SCENARIO	97
5.16	CASE STUDY ANALYSIS	98
5.16.1	CASE STUDY 1: EVALUATION OF PATIENT-DERIVED ORGANOID MODELS FOR DRUG SENSITIVITY TESTING IN METASTATIC COLORECTAL CANCER WITH LIMITED TREATMENT OPTIONS	98
5.16.2	CASE STUDY 2: DEVELOPING STABLE ORGANOID MODELS FROM GASTRIC CANCER TISSUES FOR PERSONALIZED MEDICINE AND DRUG SCREENING	99
5.16.3	CASE STUDY 3: OPTIMAL CULTIVATION PERIODS FOR BLADDER CANCER ORGANOID MODELS BASED ON TRANSCRIPTOMIC PLASTICITY	99
5.17	IMPACT OF AI ON HUMAN ORGANOID MODELS MARKET	100
5.17.1	KEY USE CASES	101
6	HUMAN ORGANOID MODELS MARKET, BY PRODUCT	102
6.1	INTRODUCTION	103

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- 6.2 LIVER MODELS 103
 - 6.2.1 2D LIVER MODELS 107
 - 6.2.1.1 Fresh hepatocytes 108
 - 6.2.1.1.1 Increased drug metabolism studies to drive market 108
 - 6.2.1.2 Cryopreserved hepatocytes 109
 - 6.2.1.2.1 High quality and response to support market growth 109
 - 6.2.1.3 Other 2D liver models 110
 - 6.2.2 3D LIVER MODELS 111
 - 6.2.2.1 Liver organoids 112
 - 6.2.2.1.1 Support for determining pharmacology and hepatic toxicity of drugs to treat NAFLD 112
 - 6.2.2.2 3D bioprinted liver models 113
 - 6.2.2.2.1 Increased use in drug discovery to propel market growth 113
 - 6.2.2.3 Liver spheroids 114
 - 6.2.2.3.1 Need for better approaches in drug discovery to promote adoption of spheroids 114
 - 6.2.2.4 Liver-on-a-chip 115
 - 6.2.2.4.1 Stricter regulations on animal testing to promote adoption of in vitro systems like liver-on-a-chip 115
 - 6.2.2.5 Other 3D liver models 116
- 6.3 KIDNEY MODELS 117
 - 6.3.1 2D KIDNEY MODELS 120
 - 6.3.1.1 Fresh kidney cells 121
 - 6.3.1.1.1 Accurate representation and functionality to support usage 121
 - 6.3.1.2 Cryopreserved kidney cells 122
 - 6.3.1.2.1 Long-term storage benefits to drive market 122
 - 6.3.1.3 Other 2D kidney models 123
 - 6.3.2 3D KIDNEY MODELS 123
 - 6.3.2.1 Kidney organoids 124
 - 6.3.2.1.1 Increasing incidence of chronic kidney disease to boost market growth 124
 - 6.3.2.2 3D bioprinted kidney models 125
 - 6.3.2.2.1 High cost of bioprinting to hinder market growth 125
 - 6.3.2.3 Kidney spheroids 126
 - 6.3.2.3.1 Feasibility of studying challenging kidney diseases to drive adoption 126
 - 6.3.2.4 Other 3D kidney models 126
- 6.4 PANCREATIC MODELS 127
 - 6.4.1 2D PANCREATIC MODELS 130
 - 6.4.1.1 Fresh pancreatic cells 131
 - 6.4.1.1.1 High responsiveness to stimuli to support demand 131
 - 6.4.1.2 Cryopreserved pancreatic cells 132
 - 6.4.1.2.1 Potential use of cryopreserved cells in regenerative therapies and transplantation to increase demand 132
 - 6.4.1.3 Other 2D pancreatic models 133
 - 6.4.2 3D PANCREATIC MODELS 133
 - 6.4.2.1 Pancreatic organoids 134
 - 6.4.2.1.1 Increasing prevalence of diabetes and pancreatic cancer to drive uptake of pancreatic organoids 134
 - 6.4.2.2 3D bioprinted pancreatic models 135
 - 6.4.2.2.1 Precise fabrication and close resemblance to native architecture to drive adoption 135
 - 6.4.2.3 Pancreatic spheroids 136
 - 6.4.2.3.1 Improved methods for 3D cell culture to promote spheroid formation and support market growth 136
 - 6.4.2.4 Other 3D pancreatic models 137

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6.5	COLORECTAL MODELS	137
6.5.1	2D COLORECTAL MODELS	140
6.5.1.1	Fresh colorectal cells	141
6.5.1.1.1	Increasing incidence of colorectal cancer worldwide to heighten demand for fresh cells	141
6.5.1.2	Cryopreserved colorectal cells	142
6.5.1.2.1	Ability to thaw and culture cells on demand to support efficient research process, reducing need for continuous tissue sourcing	142
6.5.1.3	Other 2D colorectal models	143
6.5.2	3D COLORECTAL MODELS	144
6.5.2.1	Colorectal organoids	145
6.5.2.1.1	Drive to enhance therapeutic interventions will support growth	145
6.5.2.2	3D bioprinted colorectal models	146
6.5.2.2.1	Increasing bioburden of colorectal cancer to drive market growth	146
6.5.2.3	Colorectal spheroids	147
6.5.2.3.1	Advantages in determining disease mechanisms and drug testing to drive adoption	147
6.5.2.4	Other 3D colorectal models	147
6.6	HEART MODELS	148
6.6.1	2D HEART MODELS	151
6.6.1.1	Fresh heart cells	152
6.6.1.1.1	Importance in regenerative medicine applications to support adoption	152
6.6.1.2	Cryopreserved heart cells	152
6.6.1.2.1	On-demand access for clinical or research use to drive uptake of cryopreserved cells	152
6.6.1.3	Other 2D heart models	153
6.6.2	3D HEART MODELS	154
6.6.2.1	Heart organoids	155
6.6.2.1.1	Rising demand in cardiogenesis research to propel market growth	155
6.6.2.2	3D bioprinted heart models	155
6.6.2.2.1	High production costs to hinder adoption	155
6.6.2.3	Heart spheroids	156
6.6.2.3.1	Challenges in controlling spheroid morphology to restrain growth	156
6.6.2.4	Other 3D heart models	157
6.7	LUNG MODELS	158
6.7.1	2D LUNG MODELS	161
6.7.1.1	Fresh lung cells	162
6.7.1.1.1	Use of fresh lung cells gaining momentum due to their ability to accurately replicate native lung environment	162
6.7.1.2	Cryopreserved lung cells	163
6.7.1.2.1	Advancements in slicing and cryopreservation to enable creation of thousands of hPCLS from a single lung	163
6.7.1.3	Other 2D lung models	164
6.7.2	3D LUNG MODELS	164
6.7.2.1	Lung organoids	165
6.7.2.1.1	Increased adoption in biological research areas to boost market growth	165
6.7.2.2	3D bioprinted lung models	166
6.7.2.2.1	Advancements in bioinks to support uptake of 3D bioprinted lung models	166
6.7.2.3	Lung spheroids	167
6.7.2.3.1	Advantages of physiologically relevant environments for evaluating drug efficacy and toxicity to support usage	167
6.7.2.4	Other 3D lung models	168
6.8	OTHER PRODUCTS	168

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6.8.1	2D MODELS (OTHER PRODUCTS)	171
6.8.1.1	Fresh cells (other products)	172
6.8.1.1.1	New techniques for isolating and preserving fresh cells to help enhance quality of research	172
6.8.1.2	Cryopreserved cells (other products)	173
6.8.1.2.1	Long-term storage benefits and advancements in research to support adoption	173
6.8.1.3	Other 2D models	174
?		
6.8.2	3D MODELS (OTHER PRODUCTS)	175
6.8.2.1	Organoids (other products)	176
6.8.2.1.1	Growing focus on collaboration fosters innovation in organoid development	176
6.8.2.2	3D bioprinted models (other products)	177
6.8.2.2.1	Lack of suitable biopinks for 3D bioprinting applications to hamper market growth	177
6.8.2.3	Spheroids (other products)	178
6.8.2.3.1	Predictive environment for assessing efficacy and safety to support adoption	178
6.8.2.4	Other 3D models (other products)	179
7	HUMAN ORGANOIDS MARKET, BY SOURCE	180
7.1	INTRODUCTION	181
7.2	ADULT STEM CELLS	181
7.2.1	ADULT STEM CELLS TO HOLD LARGEST SHARE OF MARKET, BY SOURCE	181
7.3	INDUCED PLURIPOTENT STEM CELLS	184
7.3.1	GROWING DEMAND FOR PERSONALIZED MEDICINE TO DRIVE UPTAKE OF IPSCS	184
7.4	EMBRYONIC STEM CELLS	186
7.4.1	ETHICAL CONCERNS ASSOCIATED WITH ESCS TO HINDER MARKET GROWTH	186
7.5	OTHER SOURCES	189
8	HUMAN ORGANOIDS MARKET, BY TYPE	192
8.1	INTRODUCTION	193
8.2	READY-TO-USE PRODUCTS	193
8.2.1	MASS PRODUCTION OF READY-TO-USE PRODUCTS TO DRIVE ADOPTION	193
8.3	CUSTOMIZABLE PRODUCTS	196
8.3.1	ADVANCEMENTS IN 3D BIOPRINTING TO PROPEL MARKET GROWTH	196
9	HUMAN ORGANOIDS MARKET, BY CULTURE METHOD	200
9.1	INTRODUCTION	201
9.2	MATRIGEL MATRIX CULTURE	201
9.2.1	LONG-STANDING USE AND EFFECTIVENESS IN GROWING ORGANOIDS TO ENSURE ADOPTION	201
9.3	AIR-LIQUID INTERFACE CULTURE	204
9.3.1	INCREASING PREVALENCE OF DISEASES AFFECTING EPITHELIAL TISSUES TO DRIVE ADOPTION	204
9.4	SUSPENSION CULTURE	206
9.4.1	COST-EFFECTIVENESS OF SUSPENSION CULTURE TO DRIVE MARKET	206
9.5	3D BIOPRINTING CULTURE	209
9.5.1	RISING DEMAND FOR PERSONALIZED MEDICINE TO BOOST MARKET GROWTH	209
9.6	OTHER CULTURE METHODS	211
10	HUMAN ORGANOIDS MARKET, BY DISEASE AREA	214
10.1	INTRODUCTION	215
10.2	ONCOLOGY	215
10.2.1	GROWING FOCUS ON PERSONALIZED MEDICINE IN ONCOLOGY TO DRIVE DEMAND FOR CANCER ORGANOIDS	215
10.3	LIVER DISEASES	218
10.3.1	INCREASING INCIDENCE OF LIVER-RELATED CONDITIONS TO DRIVE DEMAND FOR EFFECTIVE RESEARCH MODELS	218

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10.4	GASTROINTESTINAL DISEASES	220
10.4.1	WIDE USAGE IN MODELING INFLAMMATORY BOWEL DISEASE AND MALIGNANCIES TO PROPEL MARKET	220
10.5	CARDIOVASCULAR DISEASES	223
10.5.1	RISING INCIDENCE OF CARDIOVASCULAR DISEASES TO DRIVE MARKET	223
10.6	INFECTIOUS DISEASES	225
10.6.1	USE OF ORGANOIDS IN DEVELOPING ANTIVIRAL DRUGS TO SUPPORT MARKET GROWTH	225
10.7	NEUROLOGICAL DISORDERS	228
10.7.1	GROWING INCIDENCE OF NEUROPSYCHIATRIC DISORDERS TO FUEL UPTAKE OF HUMAN ORGANOIDS	228
10.8	OTHER DISEASE AREAS	230
11	HUMAN ORGANOIDS MARKET, BY APPLICATION	233
11.1	INTRODUCTION	234
11.2	DEVELOPMENTAL BIOLOGY	234
11.2.1	TECHNOLOGICAL ADVANCEMENTS IN STEM CELL RESEARCH TO BOOST MARKET GROWTH	234
11.3	DRUG TOXICITY & EFFICACY TESTING	237
11.3.1	INCREASED DRUG DEVELOPMENT COSTS TO DRIVE GROWTH	237
11.4	DISEASE PATHOLOGY	239
11.4.1	INCREASED DEMAND FOR ADVANCED IN VITRO DISEASE STUDIES TO AUGMENT MARKET GROWTH	239
11.5	PERSONALIZED MEDICINE	242
11.5.1	HIGH COST AND INSUFFICIENT DATA TO HAMPER MARKET GROWTH	242
11.6	REGENERATIVE MEDICINE	244
11.6.1	INCREASING FUNDING ACTIVITIES TO PROPEL MARKET GROWTH	244
11.7	OTHER APPLICATIONS	247
12	HUMAN ORGANOIDS MARKET, BY END USER	250
12.1	INTRODUCTION	251
12.2	PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES	251
12.2.1	INCREASING PREVALENCE OF CHRONIC DISEASES TO PROPEL MARKET GROWTH	251
	?	
12.3	CONTRACT RESEARCH ORGANIZATIONS	254
12.3.1	INCREASING OUTSOURCING OF CLINICAL RESEARCH SERVICES TO SUPPORT MARKET GROWTH	254
12.4	ACADEMIC & RESEARCH INSTITUTES	256
12.4.1	RISING GOVERNMENT FUNDING AND INCREASING INDUSTRY-ACADEMIA COLLABORATIONS TO DRIVE MARKET	256
12.5	OTHER END USERS	259
13	HUMAN ORGANOIDS MARKET, BY REGION	262
13.1	INTRODUCTION	263
13.2	NORTH AMERICA	263
13.2.1	MACROECONOMIC OUTLOOK FOR NORTH AMERICA	264
13.2.2	US	268
13.2.2.1	Rising prevalence of chronic respiratory diseases and organ transplants to expedite growth	268
13.2.3	CANADA	272
13.2.3.1	Growing incidence of cancer and investments in disease diagnostics & life science research to drive market	272
13.3	EUROPE	277
13.3.1	MACROECONOMIC OUTLOOK FOR EUROPE	278
13.3.2	GERMANY	282
13.3.2.1	Higher healthcare spending and organ transplants to favor market growth	282
13.3.3	UK	286
13.3.3.1	Rising disease prevalence to drive market growth	286
13.3.4	FRANCE	290

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13.3.4.1	Increasing availability of advanced medical technologies to support market growth	290
13.3.5	ITALY	294
13.3.5.1	Modernization of healthcare infrastructure to support market	294
13.3.6	SPAIN	297
13.3.6.1	Rising incidences of cancer to drive demand	297
13.3.7	REST OF EUROPE	301
13.4	ASIA PACIFIC	304
13.4.1	MACROECONOMIC OUTLOOK FOR ASIA PACIFIC	305
13.4.2	CHINA	310
13.4.2.1	Healthcare infrastructure improvements to support market growth in China	310
13.4.3	JAPAN	313
13.4.3.1	Rising biomedical & medical research to support market growth	313
13.4.4	INDIA	317
13.4.4.1	Large patient population and developing healthcare sector to drive market	317
	?	
13.4.5	AUSTRALIA	321
13.4.5.1	Rising private and public funding for research activities to drive market	321
13.4.6	SOUTH KOREA	325
13.4.6.1	Favorable government policies to fuel market growth	325
13.4.7	REST OF ASIA PACIFIC	329
13.5	LATIN AMERICA	332
13.5.1	MACROECONOMIC OUTLOOK FOR LATIN AMERICA	334
13.5.2	BRAZIL	337
13.5.2.1	Growing pharmaceuticals market and budget allocations to boost market	337
13.5.3	MEXICO	341
13.5.3.1	Booming medical tourism to support growth	341
13.5.4	REST OF LATIN AMERICA	344
13.6	MIDDLE EAST & AFRICA	348
13.6.1	GROWING FOCUS ON IMPROVING QUALITY OF LIFE TO DRIVE MARKET	348
13.6.2	MACROECONOMIC OUTLOOK FOR MIDDLE EAST & AFRICA	349
13.7	GCC COUNTRIES	352
13.7.1	RISING FOCUS ON ADVANCED HEALTH INFRASTRUCTURE TO AUGMENT MARKET	352
13.7.2	MACROECONOMIC OUTLOOK FOR GCC COUNTRIES	353
14	COMPETITIVE LANDSCAPE	357
14.1	INTRODUCTION	357
14.2	KEY PLAYER STRATEGIES/RIGHT TO WIN	357
14.2.1	OVERVIEW OF STRATEGIES ADOPTED BY PLAYERS IN HUMAN ORGANOIDS MARKET	357
14.3	REVENUE ANALYSIS, 2021-2023	359
14.4	MARKET SHARE ANALYSIS, 2023	360
14.5	COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023	361
14.5.1	STARS	361
14.5.2	EMERGING LEADERS	362
14.5.3	PERVASIVE PLAYERS	362
14.5.4	PARTICIPANTS	362
14.5.5	COMPANY FOOTPRINT, KEY PLAYERS, 2023	363
14.5.5.1	Company footprint	363
14.5.5.2	Region footprint	363

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14.5.5.3	Product footprint	364
14.5.5.4	Source footprint	365
14.5.5.5	Application footprint	365
14.6	COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023	366
14.6.1	PROGRESSIVE COMPANIES	366
14.6.2	RESPONSIVE COMPANIES	366
14.6.3	DYNAMIC COMPANIES	366
14.6.4	STARTING BLOCKS	366
14.6.5	COMPETITIVE BENCHMARKING OF STARTUP/SME PLAYERS, 2023	367
14.7	COMPANY VALUATION AND FINANCIAL METRICS	368
14.8	BRAND/PRODUCT COMPARATIVE ANALYSIS	369
14.8.1	BIOIVT	369
14.8.2	BECYTES BIOTECHNOLOGIES	369
14.9	COMPETITIVE SCENARIO	369
14.9.1	PRODUCT LAUNCHES	370
14.9.2	DEALS	370
15	COMPANY PROFILES	372
15.1	KEY PLAYERS	372
15.1.1	THERMO FISHER SCIENTIFIC INC.	372
15.1.1.1	Business overview	372
15.1.1.2	Products offered	373
15.1.1.3	Recent developments	374
15.1.1.3.1	Product launches	374
15.1.1.3.2	Deals	375
15.1.1.4	MnM view	375
15.1.1.4.1	Right to win	375
15.1.1.4.2	Strategic choices	375
15.1.1.4.3	Weaknesses and competitive threats	376
15.1.2	CORNING INCORPORATED	377
15.1.2.1	Business overview	377
15.1.2.2	Products offered	378
15.1.2.3	Recent developments	379
15.1.2.3.1	Deals	379
15.1.2.4	MnM view	379
15.1.2.4.1	Right to win	379
15.1.2.4.2	Strategic choices	380
15.1.2.4.3	Weaknesses and competitive threats	380
15.1.3	MERCK KGAA	381
15.1.3.1	Business overview	381
15.1.3.2	Products offered	382
15.1.3.3	Recent developments	383
15.1.3.3.1	Deals	383
15.1.3.3.2	Expansions	383
15.1.3.4	MnM view	383
15.1.3.4.1	Right to win	383
15.1.3.4.2	Strategic choices	383
15.1.3.4.3	Weaknesses and competitive threats	383

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15.1.4	BIOIVT	384
15.1.4.1	Business overview	384
15.1.4.2	Products offered	384
15.1.4.3	Recent developments	388
15.1.4.3.1	Deals	388
15.1.4.4	MnM view	389
15.1.4.4.1	Right to win	389
15.1.4.4.2	Strategic choices	389
15.1.4.4.3	Weaknesses and competitive threats	389
15.1.5	HUB ORGANOIDS BV	390
15.1.5.1	Business overview	390
15.1.5.2	Products offered	390
15.1.5.3	Recent developments	390
15.1.5.3.1	Deals	390
15.1.5.4	MnM view	391
15.1.5.4.1	Right to win	391
15.1.5.4.2	Strategic choices	391
15.1.5.4.3	Weaknesses and competitive threats	391
15.1.6	BICO	392
15.1.6.1	Business overview	392
15.1.6.2	Products offered	393
15.1.6.3	Recent developments	394
15.1.6.3.1	Product launches	394
15.1.6.3.2	Deals	394
15.1.6.3.3	Other developments	394
15.1.7	BECYTES BIOTECHNOLOGIES	395
15.1.7.1	Business overview	395
15.1.7.2	Products offered	395
15.1.8	INSPHERO	396
15.1.8.1	Business overview	396
15.1.8.2	Products offered	396
15.1.8.3	Recent developments	397
15.1.8.3.1	Deals	397
15.1.9	GBA GROUP	398
15.1.9.1	Business overview	398
15.1.9.2	Products offered	398
15.1.9.3	Recent developments	398
15.1.9.3.1	Deals	398
15.1.10	KIRKSTALL LTD.	399
15.1.10.1	Business overview	399
15.1.10.2	Products offered	399
?		
15.1.11	MIMETAS BV	400
15.1.11.1	Business overview	400
15.1.11.2	Products offered	400
15.1.11.3	Recent developments	401
15.1.11.3.1	Product launches	401

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15.1.11.3.2	Deals	401
15.1.12	NEUROMICS	402
15.1.12.1	Business overview	402
15.1.12.2	Products offered	402
15.1.13	PRIMACYT CELL CULTURE TECHNOLOGY GMBH	404
15.1.13.1	Business overview	404
15.1.13.2	Products offered	404
15.1.14	STEMCELL TECHNOLOGIES	405
15.1.14.1	Business overview	405
15.1.14.2	Products offered	405
15.1.14.3	Recent developments	406
15.1.14.3.1	Expansions	406
15.2	OTHER PLAYERS	407
15.2.1	ACROBIOSYSTEMS	407
15.2.2	BIOPREDIC INTERNATIONAL	408
15.2.3	CN BIO INNOVATIONS LTD.	408
15.2.4	CYPRIO	409
15.2.5	EMULATE, INC.	410
15.2.6	KERAFAST, INC.	411
15.2.7	PANDORUM TECHNOLOGIES PVT. LTD.	411
15.2.8	CYFUSE BIOMEDICAL KK	412
15.2.9	NEYROBLASTGX LLC	413
15.2.10	3DNAMICS INC.	414
15.2.11	DEFINIGEN LIMITED	415
16	APPENDIX	416
16.1	DISCUSSION GUIDE	416
16.2	KNOWLEDGESTORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL	423
16.3	CUSTOMIZATION OPTIONS	425
16.4	RELATED REPORTS	425
16.5	AUTHOR DETAILS	426

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