

3D Cell Culture Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

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Abstracts

The global 3D cell culture market reached a value of US\$ 1,746 Million in 2021. Looking forward, IMARC Group expects the market to reach US\$ 4,123 Million by 2027, exhibiting a CAGR of 15.28% during 2022-2027. Keeping in mind the uncertainties of COVID-19, we are continuously tracking and evaluating the direct as well as the indirect influence of the pandemic on different end use sectors. These insights are included in the report as a major market contributor.

3D cell culture refers to an in-vitro technique used for developing biological cells in a three-dimensional artificial environment. The cell cultures replicate the structure of complex cellular matrices and mimic tissue and organ-specific microarchitectures. They are further observed to gain insights regarding the interaction of cells with the natural environment during radiotherapy, chemotherapy and antibody-based immunotherapy. 3D cell cultures are commonly used in magnetic, bio-printed, scaffold-based and scaffold-free variants. They are widely used for drug screening, development of stem cell therapies and cancer research. In comparison to the traditionally used 2D cell cultures, 3D cell cultures provide an improved simulation of conditions in a living organism and are independent of other cells and tissues.

3D Cell Culture Market Trends:

The increasing prevalence of chronic medical ailments across the globe is one of the key factors driving the growth of the market. The rising preference for personalized medicines among healthcare providers and patients is also providing a thrust to the market growth. 3D cell cultures are extensively used for the development of cancer treatments, stem cell research, drug discovery, toxicology testing and tissue engineering. Moreover, as the coronavirus disease (COVID-19) continues to spread across the globe, there has been a significant increase in the utilization of scaffold-

based 3D cell cultures for the discovery and bio-fabrication of antiviral drugs and novel therapeutics. Additionally, the development of advanced microfluidic-based 3D cell cultures with improved cell viability, morphology, proliferation and differentiation is contributing to the growth of the market. Other factors, including extensive research and development (R&D) activities in the field of biotechnology, along with the increasing requirements for effective alternatives to animal testing, are anticipated to drive the market toward growth.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global 3D cell culture market, along with forecasts at the global, regional and country level from 2022-2027. Our report has categorized the market based on product, application and end user.

Breakup by Product:

- Scaffold-Based Platforms
- Scaffold-Free Platforms
- Microchips
- Bioreactors
- Others

Breakup by Application:

- Cancer Research
- Stem Cell Research
- Drug Discovery
- Regenerative Medicine
- Others

Breakup by End User:

- Biotechnology and Pharmaceutical Companies
- Contract Research Laboratories
- Academic Institutes
- Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being 3D Biotech LLC, Advanced Biomatrix Inc., Avantor Inc., CN Bio Innovations Limited, Corning Incorporated, Emulate Inc., InSphero AG, Lonza Group AG, Merck KGaA, Promocell GmbH, Synthecon Inc and Thermo Fisher Scientific Inc.

Key Questions Answered in This Report:

How has the global 3D cell culture market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global 3D cell culture market?

What are the key regional markets?

What is the breakup of the market based on the product?

What is the breakup of the market based on the application?

What is the breakup of the market based on the end user?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global 3D cell culture market and who are the key players?

What is the degree of competition in the industry?

Contents

1 PREFACE

2 SCOPE AND METHODOLOGY

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
 - 2.3.1 Primary Sources
 - 2.3.2 Secondary Sources
- 2.4 Market Estimation
 - 2.4.1 Bottom-Up Approach
 - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

3 EXECUTIVE SUMMARY

4 INTRODUCTION

- 4.1 Overview
- 4.2 Key Industry Trends

5 GLOBAL 3D CELL CULTURE MARKET

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Forecast

6 MARKET BREAKUP BY PRODUCT

- 6.1 Scaffold-Based Platforms
 - 6.1.1 Market Trends
 - 6.1.2 Market Forecast
- 6.2 Scaffold-Free Platforms
 - 6.2.1 Market Trends
 - 6.2.2 Market Forecast
- 6.3 Microchips

- 6.3.1 Market Trends
- 6.3.2 Market Forecast
- 6.4 Bioreactors
 - 6.4.1 Market Trends
 - 6.4.2 Market Forecast
- 6.5 Others
 - 6.5.1 Market Trends
 - 6.5.2 Market Forecast

7 MARKET BREAKUP BY APPLICATION

- 7.1 Cancer Research
 - 7.1.1 Market Trends
 - 7.1.2 Market Forecast
- 7.2 Stem Cell Research
 - 7.2.1 Market Trends
 - 7.2.2 Market Forecast
- 7.3 Drug Discovery
 - 7.3.1 Market Trends
 - 7.3.2 Market Forecast
- 7.4 Regenerative Medicine
 - 7.4.1 Market Trends
 - 7.4.2 Market Forecast
- 7.5 Others
 - 7.5.1 Market Trends
 - 7.5.2 Market Forecast

8 MARKET BREAKUP BY END USER

- 8.1 Biotechnology and Pharmaceutical Companies
 - 8.1.1 Market Trends
 - 8.1.2 Market Forecast
- 8.2 Contract Research Laboratories
 - 8.2.1 Market Trends
 - 8.2.2 Market Forecast
- 8.3 Academic Institutes
 - 8.3.1 Market Trends
 - 8.3.2 Market Forecast
- 8.4 Others

8.4.1 Market Trends

8.4.2 Market Forecast

9 MARKET BREAKUP BY REGION

9.1 North America

9.1.1 United States

9.1.1.1 Market Trends

9.1.1.2 Market Forecast

9.1.2 Canada

9.1.2.1 Market Trends

9.1.2.2 Market Forecast

9.2 Asia-Pacific

9.2.1 China

9.2.1.1 Market Trends

9.2.1.2 Market Forecast

9.2.2 Japan

9.2.2.1 Market Trends

9.2.2.2 Market Forecast

9.2.3 India

9.2.3.1 Market Trends

9.2.3.2 Market Forecast

9.2.4 South Korea

9.2.4.1 Market Trends

9.2.4.2 Market Forecast

9.2.5 Australia

9.2.5.1 Market Trends

9.2.5.2 Market Forecast

9.2.6 Indonesia

9.2.6.1 Market Trends

9.2.6.2 Market Forecast

9.2.7 Others

9.2.7.1 Market Trends

9.2.7.2 Market Forecast

9.3 Europe

9.3.1 Germany

9.3.1.1 Market Trends

9.3.1.2 Market Forecast

9.3.2 France

- 9.3.2.1 Market Trends
- 9.3.2.2 Market Forecast
- 9.3.3 United Kingdom
 - 9.3.3.1 Market Trends
 - 9.3.3.2 Market Forecast
- 9.3.4 Italy
 - 9.3.4.1 Market Trends
 - 9.3.4.2 Market Forecast
- 9.3.5 Spain
 - 9.3.5.1 Market Trends
 - 9.3.5.2 Market Forecast
- 9.3.6 Russia
 - 9.3.6.1 Market Trends
 - 9.3.6.2 Market Forecast
- 9.3.7 Others
 - 9.3.7.1 Market Trends
 - 9.3.7.2 Market Forecast
- 9.4 Latin America
 - 9.4.1 Brazil
 - 9.4.1.1 Market Trends
 - 9.4.1.2 Market Forecast
 - 9.4.2 Mexico
 - 9.4.2.1 Market Trends
 - 9.4.2.2 Market Forecast
 - 9.4.3 Others
 - 9.4.3.1 Market Trends
 - 9.4.3.2 Market Forecast
- 9.5 Middle East and Africa
 - 9.5.1 Market Trends
 - 9.5.2 Market Breakup by Country
 - 9.5.3 Market Forecast

10 SWOT ANALYSIS

- 10.1 Overview
- 10.2 Strengths
- 10.3 Weaknesses
- 10.4 Opportunities
- 10.5 Threats

11 VALUE CHAIN ANALYSIS

12 PORTERS FIVE FORCES ANALYSIS

- 12.1 Overview
- 12.2 Bargaining Power of Buyers
- 12.3 Bargaining Power of Suppliers
- 12.4 Degree of Competition
- 12.5 Threat of New Entrants
- 12.6 Threat of Substitutes

13 PRICE ANALYSIS

14 COMPETITIVE LANDSCAPE

- 14.1 Market Structure
- 14.2 Key Players
- 14.3 Profiles of Key Players
 - 14.3.1 3D Biotek LLC
 - 14.3.1.1 Company Overview
 - 14.3.1.2 Product Portfolio
 - 14.3.2 Advanced Biomatrix Inc.
 - 14.3.2.1 Company Overview
 - 14.3.2.2 Product Portfolio
 - 14.3.3 Avantor Inc.
 - 14.3.3.1 Company Overview
 - 14.3.3.2 Product Portfolio
 - 14.3.3.3 Financials
 - 14.3.4 CN Bio Innovations Limited
 - 14.3.4.1 Company Overview
 - 14.3.4.2 Product Portfolio
 - 14.3.5 Corning Incorporated
 - 14.3.5.1 Company Overview
 - 14.3.5.2 Product Portfolio
 - 14.3.5.3 Financials
 - 14.3.5.4 SWOT Analysis
 - 14.3.6 Emulate Inc.
 - 14.3.6.1 Company Overview

- 14.3.6.2 Product Portfolio
- 14.3.7 InSphero AG
 - 14.3.7.1 Company Overview
 - 14.3.7.2 Product Portfolio
- 14.3.8 Lonza Group AG
 - 14.3.8.1 Company Overview
 - 14.3.8.2 Product Portfolio
 - 14.3.8.3 Financials
 - 14.3.8.4 SWOT Analysis
- 14.3.9 Merck KGaA
 - 14.3.9.1 Company Overview
 - 14.3.9.2 Product Portfolio
 - 14.3.9.3 Financials
 - 14.3.9.4 SWOT Analysis
- 14.3.10 Promocell GmbH
 - 14.3.10.1 Company Overview
 - 14.3.10.2 Product Portfolio
- 14.3.11 Synthecon Inc
 - 14.3.11.1 Company Overview
 - 14.3.11.2 Product Portfolio
- 14.3.12 Thermo Fisher Scientific Inc.
 - 14.3.12.1 Company Overview
 - 14.3.12.2 Product Portfolio
 - 14.3.12.3 Financials
 - 14.3.12.4 SWOT Analysis

List Of Tables

LIST OF TABLES

Table 1: Global: 3D Cell Culture Market: Key Industry Highlights, 2021 and 2027

Table 2: Global: 3D Cell Culture Market Forecast: Breakup by Product (in Million US\$), 2022-2027

Table 3: Global: 3D Cell Culture Market Forecast: Breakup by Application (in Million US\$), 2022-2027

Table 4: Global: 3D Cell Culture Market Forecast: Breakup by End User (in Million US\$), 2022-2027

Table 5: Global: 3D Cell Culture Market Forecast: Breakup by Region (in Million US\$), 2022-2027

Table 6: Global: 3D Cell Culture Market: Competitive Structure

Table 7: Global: 3D Cell Culture Market: Key Players

List Of Figures

LIST OF FIGURES

Figure 1: Global: 3D Cell Culture Market: Major Drivers and Challenges

Figure 2: Global: 3D Cell Culture Market: Sales Value (in Million US\$), 2016-2021

Figure 3: Global: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 4: Global: 3D Cell Culture Market: Breakup by Product (in %), 2021

Figure 5: Global: 3D Cell Culture Market: Breakup by Application (in %), 2021

Figure 6: Global: 3D Cell Culture Market: Breakup by End User (in %), 2021

Figure 7: Global: 3D Cell Culture Market: Breakup by Region (in %), 2021

Figure 8: Global: 3D Cell Culture (Scaffold-Based Platforms) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 9: Global: 3D Cell Culture (Scaffold-Based Platforms) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 10: Global: 3D Cell Culture (Scaffold-Free Platforms) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 11: Global: 3D Cell Culture (Scaffold-Free Platforms) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 12: Global: 3D Cell Culture (Microchips) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 13: Global: 3D Cell Culture (Microchips) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 14: Global: 3D Cell Culture (Bioreactors) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 15: Global: 3D Cell Culture (Bioreactors) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 16: Global: 3D Cell Culture (Other Products) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 17: Global: 3D Cell Culture (Other Products) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 18: Global: 3D Cell Culture (Cancer Research) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 19: Global: 3D Cell Culture (Cancer Research) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 20: Global: 3D Cell Culture (Stem Cell Research) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 21: Global: 3D Cell Culture (Stem Cell Research) Market Forecast: Sales Value

(in Million US\$), 2022-2027

Figure 22: Global: 3D Cell Culture (Drug Discovery) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 23: Global: 3D Cell Culture (Drug Discovery) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 24: Global: 3D Cell Culture (Regenerative Medicine) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 25: Global: 3D Cell Culture (Regenerative Medicine) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 26: Global: 3D Cell Culture (Other Applications) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 27: Global: 3D Cell Culture (Other Applications) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 28: Global: 3D Cell Culture (Biotechnology and Pharmaceutical Companies) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 29: Global: 3D Cell Culture (Biotechnology and Pharmaceutical Companies) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 30: Global: 3D Cell Culture (Contract Research Laboratories) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 31: Global: 3D Cell Culture (Contract Research Laboratories) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 32: Global: 3D Cell Culture (Academic Institutes) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 33: Global: 3D Cell Culture (Academic Institutes) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 34: Global: 3D Cell Culture (Other End Users) Market: Sales Value (in Million US\$), 2016 & 2021

Figure 35: Global: 3D Cell Culture (Other End Users) Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 36: North America: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 37: North America: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 38: United States: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 39: United States: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 40: Canada: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 41: Canada: 3D Cell Culture Market Forecast: Sales Value (in Million US\$),

2022-2027

Figure 42: Asia-Pacific: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 43: Asia-Pacific: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 44: China: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 45: China: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 46: Japan: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 47: Japan: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 48: India: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 49: India: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 50: South Korea: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 51: South Korea: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 52: Australia: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 53: Australia: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 54: Indonesia: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 55: Indonesia: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 56: Others: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 57: Others: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 58: Europe: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 59: Europe: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 60: Germany: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 61: Germany: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 62: France: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 63: France: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 64: United Kingdom: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 65: United Kingdom: 3D Cell Culture Market Forecast: Sales Value (in Million

US\$), 2022-2027

Figure 66: Italy: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 67: Italy: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 68: Spain: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 69: Spain: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 70: Russia: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 71: Russia: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 72: Others: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 73: Others: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 74: Latin America: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 75: Latin America: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 76: Brazil: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 77: Brazil: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 78: Mexico: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 79: Mexico: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 80: Others: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 81: Others: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 82: Middle East and Africa: 3D Cell Culture Market: Sales Value (in Million US\$), 2016 & 2021

Figure 83: Middle East and Africa: 3D Cell Culture Market: Breakup by Country (in %), 2021

Figure 84: Middle East and Africa: 3D Cell Culture Market Forecast: Sales Value (in Million US\$), 2022-2027

Figure 85: Global: 3D Cell Culture Industry: SWOT Analysis

Figure 86: Global: 3D Cell Culture Industry: Value Chain Analysis

Figure 87: Global: 3D Cell Culture Industry: Porter's Five Forces Analysis

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