

# Patient-Derived Xenograft / PDX Model Market by Type (Mice, Rat), Implantation Method (Subcutaneous, Orthotopic), Tumor Type (Respiratory, Hematological), Application (Drug Development, Biobanks), End User (Pharma, Biotech, CROs) - Global Forecast to 2028

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# **Abstracts**

The patient-derived xenografts/ PDX model market is projected to reach USD 687 million by 2028 from USD 366 million in 2023, at a CAGR of 13.4% during the forecast period. The key factors driving the growth of the global patient-derived xenograft/ PDX model market are the enhanced preclinical predictability, advancement of personalized medicine, and rise in the prevalence of cancer. However, ethical concerns surrounding the use of animal models are expected to restrain market growth to a certain extent.

The patient-derived xenografts/ PDX models market has been segmented based on type, implantation method, tumor type, application, end-user, and region.

"By type, the mouse model segment accounted for the largest share of the patientderived xenografts/ PDX models market."

Based on type, the patient-derived xenografts/ PDX models market is categorized into mouse model and rat model. The mouse model segment is the largest and fastest-growing segment in the market in 2023, owing to ease of manipulation and procurement, and the minimum requirement for keeping them under observation compared to rats in the facilities has led to a higher growth rate for products in the patient-derived xenografts/ PDX models market.

"By implantation method, subcutaneous implantation segment accounted for the largest share in the patient-derived xenografts/ PDX models market."



Based on implantation method, the market is segmented into subcutaneous implantation, orthotopic implantation, and other implantation methods (heterotopic implantation, intraocular implantation, and under the renal capsule). In 2023, the subcutaneous segment accounted for the largest share and the fastest-growing segment of the patient-derived xenografts/ PDX models market. Subcutaneous implantation involves implanting patient-derived tumor tissue under the skin of a host animal (often a mouse). This method is relatively simple and minimally invasive compared to other implantation methods, making it a practical choice for researchers.

"North America: the largest share of the patient-derived xenografts/ PDX models market."

North America accounted for the largest share of the patient-derived xenografts/ PDX models market. The region possesses a highly developed and robust biopharmaceutical industry, with advanced research and clinical infrastructure. This environment facilitates efficient collaboration between academia, research institutions, and pharmaceutical companies, enabling the effective utilization and adoption of PDX models.

Secondly, North America's regulatory framework supports the integration of innovative technologies, including PDX models, in preclinical and clinical research. The stringent regulatory standards ensure that PDX models are validated and applicable for drug development processes, thereby bolstering investor and industry confidence.

Moreover, the APAC region offers lucrative growth potential for the PDX models market. This region benefits from a robust healthcare infrastructure, a burgeoning biopharmaceutical industry, and a large patient population, fostering an ideal setting for PDX model utilization.

The primary interviews conducted for this report can be categorized as follows:

By Respondent: Supply Side- 63% and Demand Side- 37%

By Designation: Executives - 45%, Research Scientists- 30%, and Managers - 25%

By Country: North America- 40%, Europe- 25%, Asia Pacific- 20%, Latin America - 10%, and Middle East Africa- 5%



# **Prominent Players**

JSR Corporation (Japan)

Wuxi Apptec (China)

The Jackson Laboratory (US)

Charles River Laboratories International, Inc. (US)

Taconic Biosciences, Inc. (US)

Oncodesign Precision Medicine (France)

Inotiv, Inc. (US)

Pharmatest Services (Finland)

Hera BioLabs (US)

EPO Berlin-Buch GmbH (Germany)

Xentech (France)

Urosphere (France)

Altogen Labs (US)

Abnova Corporation (US)

Genesis Biotechnology Group (US)

Biocytogen Pharmaceuticals Co., Ltd. (China)

Creative Animodel (US)

BioDuro-Sundia (US)

Aragen Life Sciences (India)



Shanghai LIDE Biotech Co., Ltd. (China)

Certis Oncology Solutions (US)

InnoSer (Netherlands)

IVRS AB (Sweden)

Beijing IDMO Co. Ltd. (China)

Shanghai Chempartner Co. Ltd. (China)

#### Research Coverage:

This report provides a detailed picture of the patient-derived xenografts/ PDX models market. It aims at estimating the size and future growth potential of the market across different segments, such as type, implantation method, tumor type, application, and enduser, and region (North America, Europe, Asia Pacific, Latin America, and Middle East Africa). The report also includes an in-depth competitive analysis of the key market players, along with their company profiles, recent developments, and key market strategies.

Key Benefits of Buying the Report:

The report will help market leaders/new entrants by providing them with the closest approximations of the revenue numbers for the overall patient-derived xenografts/ PDX models market and its segments. It will also help stakeholders better understand the competitive landscape and gain more insights to better position their business and make suitable go-to-market strategies. This report will enable stakeholders to understand the market's pulse and provide them with information on the key market drivers, restraints, trends, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers (growing demand for personalized medicine, technological advancements in PDX technology, and rising investments for cancer research), restraints (FDA's announcement to discontinue animal



models for clinical trials), opportunities (emergence of CRISPR in biomedical research), and challenges (development of alternative animal testing methods) influencing the growth of the patient-derived xenografts/ PDX models market.

Product Development/ Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the patient-derived xenografts/ PDX models market.

Market Development: Comprehensive information about lucrative markets- the report analyses the patient-derived xenografts/ PDX models market across varied regions.

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the patient-derived xenografts/ PDX models market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like JSR Corporation (Japan), The Jackson Laboratory (US), and Charles River Laboratories International, Inc. (US), among others, in the patient-derived xenografts/ PDX models market strategies. The report also helps stakeholders understand the pulse of the patient-derived xenografts/ PDX models market and provides them with information on key market drivers, restraints, challenges, and opportunities.



# **Contents**

## 1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION
- 1.3 INCLUSIONS AND EXCLUSIONS
- 1.4 STUDY SCOPE
  - 1.4.1 MARKETS COVERED
  - 1.4.2 YEARS CONSIDERED
  - 1.4.3 CURRENCY CONSIDERED
- 1.5 LIMITATIONS
- 1.6 STAKEHOLDERS
- 1.7 SUMMARY OF CHANGES
- 1.8 RECESSION IMPACT

#### 2 RESEARCH METHODOLOGY

#### 2.1 RESEARCH DATA

FIGURE 1 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: RESEARCH DESIGN

- 2.1.1 SECONDARY DATA
- 2.1.2 PRIMARY DATA

FIGURE 2 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: BREAKDOWN OF PRIMARIES

2.2 MARKET ESTIMATION METHODOLOGY

FIGURE 3 MARKET SIZE ESTIMATION: COMPANY REVENUE ANALYSIS-BASED ESTIMATION, 2023

FIGURE 4 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET SIZE, 2023 (USD MILLION)

FIGURE 5 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: FINAL CAGR PROJECTIONS, 2023?2028

FIGURE 6 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: CAGR PROJECTIONS FROM ANALYSIS OF DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

2.3 DATA TRIANGULATION METHODOLOGY

FIGURE 7 DATA TRIANGULATION

- 2.4 INDUSTRY INSIGHTS
- 2.5 RESEARCH ASSUMPTIONS



2.6 RECESSION IMPACT

TABLE 1 GLOBAL INFLATION RATE PROJECTIONS, 2021–2027 (%)

TABLE 2 US HEALTHCARE EXPENDITURE, 2019–2022 (USD MILLION)

TABLE 3 US HEALTHCARE EXPENDITURE, 2023–2027 (USD MILLION)

#### **3 EXECUTIVE SUMMARY**

FIGURE 8 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2023 VS. 2028 (USD MILLION)

FIGURE 9 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2023 VS. 2028 (USD MILLION)

FIGURE 10 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2023 VS. 2028 (USD MILLION)

FIGURE 11 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION

#### **4 PREMIUM INSIGHTS**

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET

FIGURE 12 RISING INVESTMENTS IN CANCER RESEARCH AND ADVANCEMENTS IN PDX TECHNOLOGY

4.2 NORTH AMERICAN PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER AND COUNTRY (2023)

FIGURE 13 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES SEGMENT AND US TO ACCOUNT FOR LARGEST SHARES OF NORTH AMERICAN PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET IN 2023

4.3 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION FIGURE 14 PRECLINICAL DRUG DEVELOPMENT SEGMENT TO HOLD LARGEST MARKET SHARE IN 2028

#### **5 MARKET OVERVIEW**

5.1 INTRODUCTION

**5.2 MARKET DYNAMICS** 

FIGURE 15 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

TABLE 4 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: IMPACT ANALYSIS

5.2.1 DRIVERS



- 5.2.1.1 Growing demand for personalized medicine
- 5.2.1.2 Technological advancements in patient-derived xenograft (PDX) models
- 5.2.1.3 Rising investments in cancer research
- 5.2.2 RESTRAINTS
  - 5.2.2.1 Discontinuation of animal models for clinical trials by FDA
- **5.2.3 OPPORTUNITIES**
- 5.2.3.1 Emergence of Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) in biomedical research
  - 5.2.4 CHALLENGES
    - 5.2.4.1 Development of alternative animal testing methods
- 5.3 TECHNOLOGY ANALYSIS
- 5.4 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

FIGURE 16 REVENUE SHIFT AND NEW REVENUE POCKETS FOR PLAYERS IN PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET

5.5 SUPPLY CHAIN ANALYSIS

FIGURE 17 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: SUPPLY CHAIN ANALYSIS

TABLE 5 COMPANIES AND THEIR ROLE IN PATIENT-DERIVED XENOGRAFT (PDX) MODEL SUPPLY CHAIN

5.6 VALUE CHAIN ANALYSIS

FIGURE 18 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: VALUE CHAIN ANALYSIS

5.7 ECOSYSTEM ANALYSIS

FIGURE 19 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET:

**ECOSYSTEM ANALYSIS** 

5.8 PORTER'S FIVE FORCES ANALYSIS

TABLE 6 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: PORTER'S FIVE FORCES ANALYSIS

- 5.8.1 INTENSITY OF COMPETITIVE RIVALRY
- 5.8.2 BARGAINING POWER OF SUPPLIERS
- 5.8.3 BARGAINING POWER OF BUYERS
- 5.8.4 THREAT OF SUBSTITUTES
- 5.8.5 THREAT OF NEW ENTRANTS
- 5.9 REGULATORY ANALYSIS
  - 5.9.1 NORTH AMERICA
  - **5.9.2 EUROPE**
  - 5.9.3 ASIA PACIFIC
    - 5.9.3.1 China
    - 5.9.3.2 Japan



5.9.3.3 India

5.9.3.4 Australia

5.9.4 LATIN AMERICA

5.9.5 MIDDLE EAST & AFRICA

5.10 PRICING ANALYSIS

5.10.1 AVERAGE SELLING PRICE (ASP) OF PRODUCTS OFFERED BY THREE KEY PLAYERS, BY TYPE

TABLE 7 AVERAGE SELLING PRICE (ASP) OF PRODUCTS OFFERED BY THREE KEY PLAYERS, BY TYPE (USD)

5.10.2 AVERAGE SELLING PRICE (ASP) TREND

**5.11 PATENT ANALYSIS** 

FIGURE 20 GRANTED PATENTS FOR PDX MODELS, 2011-2023

5.12 KEY CONFERENCES AND EVENTS IN 2023

TABLE 8 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: KEY CONFERENCES AND EVENTS

5.13 KEY STAKEHOLDERS AND BUYING CRITERIA

5.13.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 21 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS

5.13.2 BUYING CRITERIA

FIGURE 22 KEY BUYING CRITERIA FOR THREE KEY END USERS

# 6 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD

#### **6.1 INTRODUCTION**

TABLE 9 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

**6.2 SUBCUTANEOUS IMPLANTATION** 

6.2.1 FACILITATES REAL-TIME ASSESSMENT OF TUMOR GROWTH TABLE 10 SUBCUTANEOUS IMPLANTATION: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)
TABLE 11 SUBCUTANEOUS IMPLANTATION: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 12 SUBCUTANEOUS IMPLANTATION: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 13 SUBCUTANEOUS IMPLANTATION: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 14 SUBCUTANEOUS IMPLANTATION: LATIN AMERICA PATIENT-DERIVED



XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 15 SUBCUTANEOUS IMPLANTATION: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

6.3 ORTHOTOPIC IMPLANTATION

6.3.1 PROVIDES HIGHLY ACCURATE REPRESENTATION OF TUMOR BEHAVIOR TABLE 16 ORTHOTOPIC IMPLANTATION: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 17 ORTHOTOPIC IMPLANTATION: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 18 ORTHOTOPIC IMPLANTATION: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 19 ORTHOTOPIC IMPLANTATION: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 20 ORTHOTOPIC IMPLANTATION: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 21 ORTHOTOPIC IMPLANTATION: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

MILLION)

6.4 OTHERS

TABLE 22 OTHERS: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 23 OTHERS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 24 OTHERS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 25 OTHERS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 26 OTHERS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 27 OTHERS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

#### 7 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE

#### 7.1 INTRODUCTION

TABLE 28 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

7.2 MOUSE MODEL



7.2.1 GROWING USE IN CANCER RESEARCH AND DRUG DEVELOPMENT TABLE 29 MOUSE MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 30 MOUSE MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 31 MOUSE MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY COUNTRY, 2021-2028 (USD MILLION)

TABLE 32 MOUSE MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 33 MOUSE MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 34 MOUSE MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) 7.3 RAT MODEL

7.3.1 DEVELOPMENT OF NEW TECHNOLOGIES TO CREATE PDX RAT MODELS AT FASTER RATE

TABLE 35 RAT MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 36 RAT MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 37 RAT MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 38 RAT MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 39 RAT MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 40 RAT MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

### 8 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION

#### 8.1 INTRODUCTION

TABLE 41 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

8.2 PRECLINICAL DRUG DEVELOPMENT

8.2.1 INCREASED NUMBER OF CLINICAL TRIALS

TABLE 42 PRECLINICAL DRUG DEVELOPMENT: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 43 PRECLINICAL DRUG DEVELOPMENT: NORTH AMERICA PATIENT-



DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 44 PRECLINICAL DRUG DEVELOPMENT: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 45 PRECLINICAL DRUG DEVELOPMENT: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 46 PRECLINICAL DRUG DEVELOPMENT: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 47 PRECLINICAL DRUG DEVELOPMENT: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

8.3 BIOMARKER ANALYSIS

8.3.1 GROWING DEMAND FOR BIOMARKER-BASED PERSONALIZED CANCER THERAPY

TABLE 48 BIOMARKER ANALYSIS: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 49 BIOMARKER ANALYSIS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 50 BIOMARKER ANALYSIS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 51 BIOMARKER ANALYSIS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 52 BIOMARKER ANALYSIS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 53 BIOMARKER ANALYSIS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) 8.4 TRANSLATIONAL RESEARCH

8.4.1 BOOMING PERSONALIZED MEDICINE MARKET

TABLE 54 TRANSLATIONAL RESEARCH: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 55 TRANSLATIONAL RESEARCH: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 56 TRANSLATIONAL RESEARCH: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 57 TRANSLATIONAL RESEARCH: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 58 TRANSLATIONAL RESEARCH: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)



TABLE 59 TRANSLATIONAL RESEARCH: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

#### 8.5 BIOBANKS

8.5.1 RISING DRUG DISCOVERY AND DEVELOPMENT PROJECTS
TABLE 60 BIOBANKS: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET,
BY REGION, 2021–2028 (USD MILLION)

TABLE 61 BIOBANKS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 62 BIOBANKS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 63 BIOBANKS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 64 BIOBANKS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 65 BIOBANKS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

# 9 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER

#### 9.1 INTRODUCTION

TABLE 66 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

9.2 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES

9.2.1 ADVANCEMENTS IN TUMOR MICROENVIRONMENT RESEARCH TABLE 67 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 68 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 69 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, 2021–2028 (USD MILLION)

TABLE 70 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 71 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY,



2021-2028 (USD MILLION)

TABLE 72 PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

9.3 CONTRACT RESEARCH ORGANIZATIONS (CROS)

9.3.1 INCREASING OUTSOURCING OF DRUG DISCOVERY SERVICES
TABLE 73 CONTRACT RESEARCH ORGANIZATIONS: PATIENT-DERIVED
XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)
TABLE 74 CONTRACT RESEARCH ORGANIZATIONS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 75 CONTRACT RESEARCH ORGANIZATIONS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 76 CONTRACT RESEARCH ORGANIZATIONS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 77 CONTRACT RESEARCH ORGANIZATIONS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 78 CONTRACT RESEARCH ORGANIZATIONS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

9.4 ACADEMIC & RESEARCH INSTITUTIONS

9.4.1 RISING R&D INVESTMENTS IN LIFE SCIENCES

TABLE 79 ACADEMIC & RESEARCH INSTITUTIONS: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION) TABLE 80 ACADEMIC & RESEARCH INSTITUTIONS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 81 ACADEMIC & RESEARCH INSTITUTIONS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 82 ACADEMIC & RESEARCH INSTITUTIONS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 83 ACADEMIC & RESEARCH INSTITUTIONS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 84 ACADEMIC & RESEARCH INSTITUTIONS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY,



2021-2028 (USD MILLION)

# 10 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE

10.1 INTRODUCTION

TABLE 85 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

10.2 GASTROINTESTINAL TUMOR MODEL

10.2.1 RISING DEMAND FOR EFFECTIVE CANCER THERAPEUTICS
TABLE 86 GASTROINTESTINAL TUMOR MODEL: PATIENT-DERIVED XENOGRAFT
(PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)
TABLE 87 GASTROINTESTINAL TUMOR MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 88 GASTROINTESTINAL TUMOR MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 89 GASTROINTESTINAL TUMOR MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 90 GASTROINTESTINAL TUMOR MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 91 GASTROINTESTINAL TUMOR MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

10.3 GYNECOLOGICAL TUMOR MODEL

10.3.1 HIGH INCIDENCE OF TARGET CANCERS

TABLE 92 GYNECOLOGICAL TUMOR MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)
TABLE 93 GYNECOLOGICAL TUMOR MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 94 GYNECOLOGICAL TUMOR MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 95 GYNECOLOGICAL TUMOR MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 96 GYNECOLOGICAL TUMOR MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 97 GYNECOLOGICAL TUMOR MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD



MILLION)

10.4 RESPIRATORY TUMOR MODEL

10.4.1 INCREASING PREVALENCE OF LUNG CANCER

TABLE 98 RESPIRATORY TUMOR MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 99 RESPIRATORY TUMOR MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 100 RESPIRATORY TUMOR MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 101 RESPIRATORY TUMOR MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 102 RESPIRATORY TUMOR MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 103 RESPIRATORY TUMOR MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) MILLION)

10.5 UROLOGICAL TUMOR MODEL

10.5.1 INCREASING FOCUS OF COMPANIES ON EXPANDING PORTFOLIO OF UROLOGICAL TUMOR MODELS

TABLE 104 UROLOGICAL TUMOR MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 105 UROLOGICAL TUMOR MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 106 UROLOGICAL TUMOR MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 107 UROLOGICAL TUMOR MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 108 UROLOGICAL TUMOR MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 109 UROLOGICAL TUMOR MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) MILLION)

10.6 HEMATOLOGICAL TUMOR MODEL

10.6.1 ADVANCEMENTS IN TRANSLATIONAL RESEARCH AND INCREASING DEMAND FOR PERSONALIZED MEDICINE

TABLE 110 HEMATOLOGICAL TUMOR MODEL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 111 HEMATOLOGICAL TUMOR MODEL: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD



# MILLION)

TABLE 112 HEMATOLOGICAL TUMOR MODEL: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 113 HEMATOLOGICAL TUMOR MODEL: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION) TABLE 114 HEMATOLOGICAL TUMOR MODEL: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 115 HEMATOLOGICAL TUMOR MODEL: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

10.7 OTHERS

TABLE 116 OTHERS: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 117 OTHERS: NORTH AMERICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 118 OTHERS: EUROPE PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 119 OTHERS: ASIA PACIFIC PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 120 OTHERS: LATIN AMERICA PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 121 OTHERS: MIDDLE EAST & AFRICA PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

# 11 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY REGION

#### 11.1 INTRODUCTION

TABLE 122 PATIENT-DERIVED XENOGRAFT MODEL MARKET, BY REGION, 2021–2028 (USD MILLION)

11.2 NORTH AMERICA

FIGURE 23 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET SNAPSHOT

TABLE 123 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 124 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 125 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)



TABLE 126 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 127 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 128 NORTH AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.2.1 US

11.2.1.1 Growing federal research and development efforts to drive market

TABLE 129 US: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 130 US: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 131 US: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 132 US: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 133 US: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.2.2 CANADA

11.2.2.1 Government-led investments in stem cell research to drive market

TABLE 134 CANADA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 135 CANADA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 136 CANADA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 137 CANADA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 138 CANADA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.2.3 NORTH AMERICA: IMPACT OF RECESSION

11.3 EUROPE

TABLE 139 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 140 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 141 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 142 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY



TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 143 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 144 EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

**11.3.1 GERMANY** 

11.3.1.1 Increasing investments in biotechnology industry to boost market growth TABLE 145 GERMANY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 146 GERMANY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 147 GERMANY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 148 GERMANY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 149 GERMANY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.2 FRANCE

11.3.2.1 Increasing government funding for cancer research to support market growth TABLE 150 FRANCE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 151 FRANCE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 152 FRANCE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 153 FRANCE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 154 FRANCE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.3 UK

11.3.3.1 Rising focus on innovating oncology therapeutics to drive market TABLE 155 UK: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 156 UK: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 157 UK: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 158 UK: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)



TABLE 159 UK: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.4 ITALY

11.3.4.1 Growing biotechnology and pharmaceutical industries to drive market

TABLE 160 ITALY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 161 ITALY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 162 ITALY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 163 ITALY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 164 ITALY: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.5 SPAIN

11.3.5.1 Increasing investments in clinical trials to promote market growth

TABLE 165 SPAIN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 166 SPAIN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 167 SPAIN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 168 SPAIN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 169 SPAIN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.6 REST OF EUROPE

TABLE 170 REST OF EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 171 REST OF EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 172 REST OF EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 173 REST OF EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 174 REST OF EUROPE: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.3.7 EUROPE: IMPACT OF RECESSION

11.4 ASIA PACIFIC



FIGURE 24 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET SNAPSHOT

TABLE 175 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 176 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 177 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 178 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 179 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 180 ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

#### 11.4.1 CHINA

11.4.1.1 Government-led fundings for clinical trials in oncology to drive market TABLE 181 CHINA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 182 CHINA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 183 CHINA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 184 CHINA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 185 CHINA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

#### 11.4.2 JAPAN

11.4.2.1 Advancements in mice model technologies to drive market

TABLE 186 JAPAN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 187 JAPAN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 188 JAPAN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 189 JAPAN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 190 JAPAN: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.4.3 INDIA



11.4.3.1 Favorable government policies for drug development to fuel demand TABLE 191 INDIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 192 INDIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 193 INDIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 194 INDIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 195 INDIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

#### 11.4.4 SOUTH KOREA

11.4.4.1 Rising investments in preclinical drug development to drive demand TABLE 196 SOUTH KOREA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 197 SOUTH KOREA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 198 SOUTH KOREA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 199 SOUTH KOREA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 200 SOUTH KOREA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

#### 11.4.5 AUSTRALIA

11.4.5.1 Increased funding in clinical trials from research institutions to drive market TABLE 201 AUSTRALIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 202 AUSTRALIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 203 AUSTRALIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 204 AUSTRALIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 205 AUSTRALIA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.4.6 REST OF ASIA PACIFIC

TABLE 206 REST OF ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 207 REST OF ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX)



MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 208 REST OF ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 209 REST OF ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 210 REST OF ASIA PACIFIC: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.4.7 ASIA PACIFIC: IMPACT OF RECESSION

11.5 LATIN AMERICA

TABLE 211 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 212 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 213 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL

MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 214 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 215 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 216 LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.5.1 BRAZIL

11.5.1.1 Growing need for advanced cancer research and therapeutic development to drive market

TABLE 217 BRAZIL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 218 BRAZIL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 219 BRAZIL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 220 BRAZIL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 221 BRAZIL: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.5.2 REST OF LATIN AMERICA

TABLE 222 REST OF LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 223 REST OF LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)



TABLE 224 REST OF LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 225 REST OF LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 226 REST OF LATIN AMERICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.5.3 LATIN AMERICA: IMPACT OF RECESSION

11.6 MIDDLE EAST & AFRICA

TABLE 227 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 228 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 229 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 230 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 231 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 232 MIDDLE EAST & AFRICA: PATIENT-DERIVED XENOGRAFT (PDX)

MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.6.1 MIDDLE EAST

11.6.1.1 Growing use to probe treatment strategies aligned with individual patient profiles to drive market

TABLE 233 MIDDLE EAST: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 234 MIDDLE EAST: PATIENT-DERIVED XENOGRAFT (PDX) MODEL

MARKET, BY IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 235 MIDDLE EAST: PATIENT-DERIVED XENOGRAFT (PDX) MODEL

MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 236 MIDDLE EAST: PATIENT-DERIVED XENOGRAFT (PDX) MODEL

MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 237 MIDDLE EAST: PATIENT-DERIVED XENOGRAFT (PDX) MODEL

MARKET, BY END USER, 2021–2028 (USD MILLION)

11.6.2 AFRICA

11.6.2.1 Rising incidence of cancer and expanding research infrastructure to drive market

TABLE 238 AFRICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 239 AFRICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY



IMPLANTATION METHOD, 2021–2028 (USD MILLION)

TABLE 240 AFRICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY TUMOR TYPE, 2021–2028 (USD MILLION)

TABLE 241 AFRICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 242 AFRICA: PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET, BY END USER, 2021–2028 (USD MILLION)

11.6.3 MIDDLE EAST & AFRICA: IMPACT OF RECESSION

#### 12 COMPETITIVE LANDSCAPE

12.1 OVERVIEW

12.2 KEY STRATEGIES ADOPTED BY MAJOR PLAYERS

FIGURE 25 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: KEY STRATEGIES ADOPTED BY MAJOR PLAYERS

12.3 REVENUE SHARE ANALYSIS OF TOP FOUR PLAYERS, 2022

FIGURE 26 REVENUE SHARE ANALYSIS FOR TOP FOUR COMPANIES, 2022

12.4 MARKET SHARE ANALYSIS OF TOP FOUR PLAYERS, 2020-2022

FIGURE 27 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET SHARE ANALYSIS OF TOP FOUR PLAYERS, 2020–2022

12.5 COMPANY EVALUATION MATRIX FOR KEY PLAYERS, 2022

12.5.1 STARS

12.5.2 EMERGING LEADERS

12.5.3 PERVASIVE PLAYERS

12.5.4 PARTICIPANTS

FIGURE 28 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: COMPANY EVALUATION MATRIX FOR KEY PLAYERS, 2022

12.6 COMPANY EVALUATION MATRIX FOR STARTUPS/SMALL AND MEDIUM-SIZED ENTERPRISES (SMES), 2022

12.6.1 PROGRESSIVE COMPANIES

12.6.2 STARTING BLOCKS

12.6.3 RESPONSIVE COMPANIES

12.6.4 DYNAMIC COMPANIES

FIGURE 29 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: COMPANY EVALUATION MATRIX FOR STARTUPS/SMES, 2022

12.7 COMPETITIVE BENCHMARKING

12.7.1 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: LIST OF STARTUPS/SMES

TABLE 243 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: LIST OF



#### STARTUPS/SMES

12.7.2 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: COMPETITIVE BENCHMARKING OF STARTUPS/SMES

TABLE 244 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET:

COMPETITIVE BENCHMARKING OF STARTUPS/SMES

12.8 COMPETITIVE SCENARIOS AND TRENDS

12.8.1 DEALS

TABLE 245 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: DEALS, 2021–2023

12.8.2 OTHERS

TABLE 246 PATIENT-DERIVED XENOGRAFT (PDX) MODEL MARKET: OTHERS, 2021–2023

#### 13 COMPANY PROFILES

#### 13.1 KEY PLAYERS

(Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats, Recent Developments)\*

13.1.1 JSR CORPORATION

TABLE 247 JSR CORPORATION: COMPANY OVERVIEW FIGURE 30 JSR CORPORATION: COMPANY SNAPSHOT

13.1.2 WUXI APPTEC

TABLE 248 WUXI APPTEC: COMPANY OVERVIEW FIGURE 31 WUXI APPTEC: COMPANY SNAPSHOT

13.1.3 THE JACKSON LABORATORY

TABLE 249 THE JACKSON LABORATORY: COMPANY OVERVIEW FIGURE 32 THE JACKSON LABORATORY: COMPANY SNAPSHOT

13.1.4 CHARLES RIVER LABORATORIES

TABLE 250 CHARLES RIVER LABORATORIES: COMPANY OVERVIEW FIGURE 33 CHARLES RIVER LABORATORIES: COMPANY SNAPSHOT 13.1.5 TACONIC BIOSCIENCES, INC.

TABLE 251 TACONIC BIOSCIENCES, INC.: COMPANY OVERVIEW

13.1.6 ONCODESIGN PRECISION MEDICINE

TABLE 252 ONCODESIGN PRECISION MEDICINE: COMPANY OVERVIEW FIGURE 34 ONCODESIGN PRECISION MEDICINE: COMPANY SNAPSHOT 13.1.7 INOTIV, INC.

TABLE 253 INOTIV, INC.: COMPANY OVERVIEW FIGURE 35 INOTIV, INC.: COMPANY SNAPSHOT



13.1.8 PHARMATEST SERVICES

TABLE 254 PHARMATEST SERVICES: COMPANY OVERVIEW

13.1.9 HERA BIOLABS

TABLE 255 HERA BIOLABS: COMPANY OVERVIEW

13.1.10 EPO BERLIN-BUCH GMBH

TABLE 256 EPO BERLIN-BUCH GMBH: COMPANY OVERVIEW

13.1.11 XENTECH

TABLE 257 XENTECH: COMPANY OVERVIEW

**13.1.12 UROSPHERE** 

TABLE 258 UROSPHERE: COMPANY OVERVIEW

13.1.13 ALTOGEN LABS

TABLE 259 ALTOGEN LABS: COMPANY OVERVIEW

13.1.14 ABNOVA CORPORATION

TABLE 260 ABNOVA CORPORATION: COMPANY OVERVIEW

13.1.15 GENESIS BIOTECHNOLOGY GROUP

TABLE 261 GENESIS BIOTECHNOLOGY GROUP: COMPANY OVERVIEW

\*Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats, Recent Developments might not be captured in case of unlisted companies.

13.2 OTHER PLAYERS

13.2.1 BIOCYTOGEN PHARMACEUTICALS CO., LTD.

13.2.2 CREATIVE ANIMODEL

13.2.3 BIODURO-SUNDIA INC.

13.2.4 ARAGEN LIFE SCIENCES

13.2.5 SHANGHAI LIDE BIOTECH CO., LTD.

13.2.6 CERTIS ONCOLOGY SOLUTIONS

**13.2.7 INNOSER** 

13.2.8 IVRS AB

13.2.9 BEIJING IDMO CO. LTD.

13.2.10 SHANGHAI CHEM PARTNER CO. LTD.

#### **14 APPENDIX**

14.1 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

14.2 CUSTOMIZATION OPTIONS

14.3 RELATED REPORTS

14.4 AUTHOR DETAILS



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