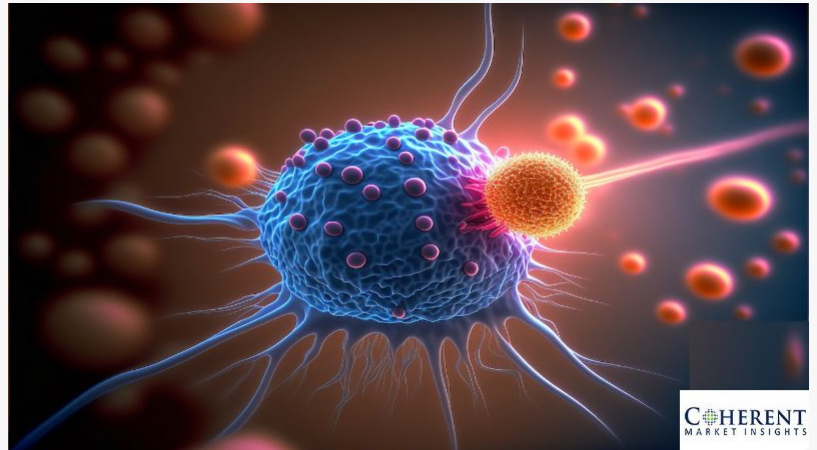


Patient Derived Xenograft Model Market Will Generate Booming Growth Opportunities to 2030 | Hera Biolabs, Oncodesign

BURLINGAME, CALIFORNIA, UNITED STATES, November 28, 2023

/EINPresswire.com/ -- According to Coherent Market Insights, The [Patient Derived Xenograft Model Market](#) size is expected to reach US\$ 346 million by 2030, from US\$ 105.4 million in 2023, at a CAGR of 18.5% during the forecast period. Patient derived xenograft (PDX) models are experimental models established by transplanting fresh tumor tissue fragments or single cells from a human tumor directly into

immunodeficient mice. These are increasingly used in preclinical cancer research to predict drug response and optimize individualized treatment. PDX models mimic the patient's tumor biology and genetic background more closely than conventional xenograft models.



Patient Derived Xenograft Model Market

Market Dynamics:

The growth of the patient derived xenograft model market is driven by increasing investments in cancer research and development from biopharmaceutical companies and governments worldwide. For instance, in 2020, the National Cancer Institute invested over \$6.2 billion in cancer research while global pharma companies invested an estimated \$150 billion in oncology research. Additionally, increasing demand for personalized medicine approaches for cancer treatment is also boosting adoption of PDX models among pharmaceutical companies for drug discovery and development programs. PDX models allow to test hundreds of drug combinations on living systems that closely resemble a patient's tumor, which helps identify the most effective therapies. This reduces drug attrition rates and costs in clinical trials.

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Market Driver:

One of the major drivers for the growth of the patient derived xenograft model market is the massive investments that are being made in cancer research across the globe. Governments as well as private organizations are pumping in large amounts of funds to support research related to developing novel drugs, diagnostic methods and personalized treatment approaches for cancer. Patient derived xenograft models play a crucial role as preclinical models in cancer drug research. They help researchers accurately mimic the original patient's tumor and study cancer biology as well as test the efficacy and safety of new drugs. The high investments in cancer research have led to increased demand for PDX models from pharmaceutical and biotech companies.

Competitive Landscape

In the segment specifically devoted to leading companies in the Patient Derived Xenograft Model Market of the market analysis document, our researchers provide a summary of the financial statements of all the major companies, covering their noteworthy developments, product benchmarking, and SWOT analysis. The corporate profile copy also includes financial information and a business summary. The businesses in this area can be customized to match the unique needs of the client.

Some of the Top Players in Patient Derived Xenograft Model Market:

THE JACKSON LABORATORY, Champions Oncology, Inc, Charles River Laboratories, Crown Bioscience, Hera Biolabs, Horizon Discovery Ltd., Oncodesign, Pharmatest Services, Shanghai LIDE Biotech, Aragen Life Sciences Ltd., Creative Animodel, Urosphere, Applied StemCell and WuXi AppTec

Patient Derived Xenograft Model Market Segmentation:

By Model Type

Tumor explant models

Cell line derived models

Patient derived organoids

Genetically engineered models

Others (Primary cell derived models, cell processed models etc.)

By Implantation Method

Subcutaneous Implantation

Orthopedic Implantation

Others

By Tumor Type

Gastrointestinal Tumor Model

Gynecological Tumor Model

Respiratory Tumor Model

Other Tumor Model

By End User

Pharmaceutical & Biotechnology Companies

Contract Research Organizations

Academic & Research Institutions

Others

Regional Analysis -

North America (U.S., Canada, Mexico)

Europe (U.K., Italy, Germany, Russia, France, Spain, The Netherlands and Rest of Europe)

Asia-Pacific (India, Japan, China, South Korea, Australia, Indonesia Rest of Asia Pacific)

Latin America (Colombia, Brazil, Argentina, Rest of Latin America)

Middle East & Africa (Saudi Arabia, U.A.E., South Africa, Rest of Middle East & Africa)

Market Restraint:

While patient derived xenograft models offer significant advantages over traditional cancer models, their high cost of development and maintenance poses a major challenge restricting wider adoption. Establishing xenografts from patient tumors requires specialized expertise and infrastructure that involves substantial financial investments. Maintaining viability and stability of the engrafted tumors through successive passages in animals also demands dedicated resources. The cost of generating and characterizing a single PDX model can range from \$10,000 to over \$100,000 depending on the cancer type. For small laboratories and startup biotech companies, the expenses associated with these models prove prohibitive. Addressing the cost issues through standardized procedures and economies of scale can help overcome this important limitation.

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Market Opportunity:

One of the biggest opportunities presented by the patient derived xenograft model market is in the area of personalized cancer medicine. As PDX models closely recapitulate the molecular and phenotypic traits of individual patient tumors, they can be effectively used to develop customized treatment strategies. Patient-derived xenografts allow scientists to study responses of original patient tumors to different therapies in preclinical settings. This helps identify the most effective drugs, predict therapeutic outcomes and detect acquired resistance for each cancer case. The ability of PDX models to recapitulate human tumors at molecular level has

enabled their increasing usage in companion diagnostics and precision oncology applications. The growing demand for personalized treatment approaches will drive significant growth in the PDX market.

Market Trend:

An emerging trend in the patient derived xenograft model market is the establishment of centralized biobanks that maintain extensive collections of tumor xenografts sourced from a large number of cancer patients. These PDX biobanks aim to establish, characterize and distribute well annotated models to researchers. They remove bottlenecks in model development and allow researchers to quickly screen multiple PDX models for their specific needs. Large academic institutes and industry-led consortiums are investing in developing universal biobanks with thousands of patient-centric xenografts representing diverse cancer subtypes. The growing popularity of PDX biobanks signifies their potential to accelerate precision oncology research and drug development through centralized, standardized resources. This represents an important market trend that will expand the applications of PDX models.

Reasons to Purchase this Report:

- Regional report analysis highlighting the consumption of products/services in a region also shows the factors that influence the market in each region.
- Reports provide opportunities and threats faced by suppliers in the Patient Derived Xenograft Model industry around the world.
- The report shows regions and sectors with the fastest growth potential.
- A competitive environment that includes market rankings of major companies, along with new product launches, partnerships, business expansions, and acquisitions.
- The report provides an extensive corporate profile consisting of company overviews, company insights, product benchmarks, and SWOT analysis for key market participants.
- This report provides the industry's current and future market outlook on the recent development, growth opportunities, drivers, challenges, and two regional constraints emerging in advanced regions.

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