Laboratory Animal Models, 3D Cultures, and Organoids: Global Markets

Market Research Report | 2024-12-17 | 130 pages | BCC Research

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Report description:

Description

Report Scope
The global laboratory animal models, 3D cultures, and organoids market is identified and explored in this report, as are all significant global companies active in the market. Markets are broken out globally and by geographic region. Additionally, all major animal models and applications are covered in detail. The current report will provide detailed exposure about this market. This report analyzes market trends using data from 2023, estimates from 2024, projections of compound annual growth rates through 2029 (forecast period 2024-2029), and regional markets. This report will highlight current and future market potential and give a detailed analysis of the competitive environment. The report will cover regulatory scenarios, drivers, restraints, and opportunities. The report also covers market projections for 2029 and the market shares of key players.
This report details market shares for the different segments, their types and applications, end users, and geography. Based on animal models, the market is segmented into gelatin and vegetarian capsules. The market is segmented based on its nutritional, pharmaceutical, and cosmeceutical applications. Based on end users, the market is segmented into pharmaceutical and nutraceutical companies, contract manufacturing companies, and others.
The market has been segmented into significant geographies: North America, Europe, Asia-Pacific, and other world regions. The regional segment includes a detailed analysis of major countries such as the U.S., Germany, the U.K., France, Japan, China, and India.
The report's goals include:
- Analyzing product types and applications.
- Analyzing global market size and segmentation.
- Understanding market constraints and drivers.
- Providing detailed market forecasts up to 2029.
- Assessing market shares, competitiveness, and industry structure.
- Identifying potential long-term impacts on the market.

Report Includes
- 45 data tables and 52 additional tables
- An up-to-date review and analysis of the global markets for the laboratory animal models, 3D cell cultures, and organoids within the industry
- Analysis of the global market trends, with data from 2021-2023, estimates for 2024, and projections of compound annual growth rates (CAGRs) through 2029
- Estimation of the actual market size and market forecast for organoids, and their corresponding market share analysis by product type, application, and geographic region
- Coverage of the current state of the industry structure, novel technological updates and issues surrounding integration of organoids and stringent regulatory constraints, ongoing research activities, and COVID-19 impact on the overall market
- Information on the current trends that significantly affect the basic research, biomedical and other industries where animals are used for toxicity testing and for evaluating the safety and metabolism of chemical compounds
- Analysis of market opportunities with a holistic review of advantages and disadvantages of the 3D cell cultures, animal models, and organoids in the prevailing biopharmaceuticals industry
- Review of selected patents and patent applications on organoids, and emerging developments in the global market
- Identification of the major stakeholders and analysis of the competitive landscape based on recent developments and segmental revenues
- Assessment of mergers and acquisitions, joint ventures, partnerships, and other market strategies
- A discussion of ESG challenges and practices in the industry
- Company profiles of major players within the industry, including Thermo Fisher Scientific Inc., Corning Inc., genOway, Charles River Laboratories, and Bio-Techne.

Executive Summary

Summary:

The established laboratory animal model industry is currently facing a paradigm shift due to the emergence and adoption of 3D cell culture systems. This shift is primarily driven by the growing demand for personalized healthcare and the need for faster, more reliable, and cost-effective drug screening. Advances in stem cell biology have enabled the creation of diverse cell and tissue types in vitro, offering promising alternatives to traditional animal models.

While animal models remain indispensable for general drug screening and safety testing, there is a growing recognition of their limitations in providing a personalized approach to patients. The increasing focus on translational research and the need for safety validation of new compounds continue to drive the use of animal models. The industry is actively developing more sophisticated animal models that closely mimic human physiology to address these needs. Precise genetic editing and humanization technologies are playing a crucial role in this evolution, leading to a steady increase in the use of genetically modified animals.

The 3Rs principle (Replacement, Reduction, and Refinement) has significantly influenced the use of animals in research, promoting ethical practices and driving a shift towards more reliable and efficient experimental models. This has led to a preference for inbred strains over outbred animals, reducing the number of animals required for experiments.

As the industry continues to evolve, emerging technologies are poised to complement and sometimes replace animal models. 3D cell cultures are gaining traction in areas where animal models are cost-prohibitive or unsuitable for specific research questions. Observing and analyzing experiments in real-time is a crucial advantage of 3D cell cultures, making them particularly valuable for studying individual patient conditions and preclinical research.

In basic research, the simplicity, scalability, and high relevance to human physiology of 3D cell culture systems make them

attractive alternatives to traditional animal models. These technologies offer the potential to generate more data in highly controlled settings, accelerating scientific discovery.

The laboratory animal models, 3D cultures and organoids market are influenced by 3D cell cultures, especially organoids. The market is expected to continue growing due to the growing focus on ethical alternatives to animal testing, increasing demand for tumor modeling and biobanking fuels market expansion, and rising adoption of organoid technology for broader applications, which are driving the market size for the forecast period. Manufacturers must prioritize sustainability, innovation, and quality to remain competitive and meet evolving consumer demands.

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