

# **Mice Model Market Forecasts to 2030 – Global Analysis By Model Type (Inbred Mice, Genetically Engineered Mice, Hybrid/ Congenic Mice, Outbred Mice, Conditioned/Surgically Modified Mice, Spontaneous Mutant Mice and Other Model Types), Technology, Indication, Application, End User and By Geography**

<https://marketpublishers.com/r/MDFA32013546EN.html>

Date: March 2025

Pages: 150

Price: US\$ 4,150.00 (Single User License)

ID: MDFA32013546EN

## **Abstracts**

According to Statistics MRC, the Global Mice Model Market is accounted for \$1.5 billion in 2024 and is expected to reach \$2.7 billion by 2030 growing at a CAGR of 10.1% during the forecast period. A mice model is a laboratory tool used to study human diseases, biological processes, and drug development due to mice's genetic similarity to humans. These models help researchers investigate conditions like cancer, neurodegenerative disorders, and cardiovascular diseases. Different types include inbred, outbred, transgenic, knockout, and humanized models, each serving specific research needs. CRISPR-Cas9 and other gene-editing technologies have enhanced the precision of these models for targeted disease studies.

Market Dynamics:

Driver:

Growing need for reliable preclinical models in drug discovery and development

The probability of failure in human research is decreased by the widespread use of mouse models by pharmaceutical and biotechnology companies to assess medication effectiveness and toxicity prior to clinical trials. Mice are perfect for quick and scalable

experiments because of their short reproductive cycle and genetic resemblance to humans. The need for mouse models in biomedical research is further increased by regulatory bodies like the FDA and EMA, which want substantial preclinical evidence. The need for sophisticated mouse models for therapeutic research has increased due to the growth in chronic illnesses, such as cancer and neurological disorders.

#### Restraint:

##### Ethical concerns and stringent animal testing regulations

Animal rights groups like PETA and HSUS aggressively oppose the use of animal models in research and promote the use of alternative techniques. Research institutes must pay more to comply with strict regulations on animal testing, such as the Animal Welfare Act in the United States and the European Union's REACH. Additionally, there is now more money being spent on alternative models including organoids, in silico simulations, and human-on-a-chip technologies as a result of public pressure and business pledges to decrease animal experimentation hampers the market growth.

#### Opportunity:

##### Development of cutting-edge genetic modification techniques

Modern genetic alteration methods, such CRISPR-Cas9, have greatly increased the accuracy of mouse models used in illness research. Better disease modeling for diseases like Alzheimer's, cancer, and autoimmune illnesses is now possible because to scientists' ability to accurately generate knockout, knock-in, and humanized mouse models. Collaborations among pharmaceutical corporations, biotech businesses, and research institutes are also encouraging innovation in the creation of customized mouse models for drug testing and therapeutic breakthroughs.

#### Threat:

##### High costs associated with genetically engineered models

Higher research costs are a result of the breeding, housing, and specialized care needed for transgenic and knockout mice. The cost burden frequently prevents university institutions and small research labs from having access to sophisticated mouse models. Additionally, the lengthy development periods for genetically modified models may cause important research initiatives to be postponed, increasing the appeal

of less expensive alternatives. The market expansion for mouse models is also threatened by the growing availability of alternative research techniques like 3D cell cultures and AI-driven drug development.

### Covid-19 Impact

The COVID-19 pandemic initially disrupted the supply chain for laboratory animals, affecting research timelines and preclinical testing activities. Lockdowns and travel restrictions led to delays in breeding programs and limited access to research facilities, slowing down various biomedical studies. However, the pandemic also highlighted the importance of mice models in vaccine and antiviral drug development. This increased focus on infectious disease models has driven renewed investments in the mice model market, positioning it for long-term growth.

The inbred mice segment is expected to be the largest during the forecast period

The inbred mice segment is expected to account for the largest market share during the forecast period due to its genetic uniformity, which ensures reproducibility and consistency in biomedical research. These mice are extensively used in cancer research, immunology studies, and toxicology testing, making them a preferred choice for pharmaceutical and academic institutions. Additionally, the increasing demand for reliable preclinical models in personalized medicine is further driving the adoption of inbred mice.

The oncology segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the oncology segment is predicted to witness the highest growth rate due to the rising global burden of cancer and the increasing need for advanced preclinical models for cancer research. Mice models play a crucial role in studying tumor biology, testing novel cancer therapies, and evaluating the efficacy of immunotherapies before clinical trials. The demand for genetically engineered mice (GEMs), patient-derived xenograft (PDX) models, and humanized mice has surged as researchers seek accurate models to mimic human tumor microenvironments.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to its well-established research infrastructure, high investments in biomedical research, and strong presence of pharmaceutical companies. The U.S.

leads in preclinical research, with extensive funding from organizations like the National Institutes of Health (NIH) and private biotech firms. The region's growing focus on drug discovery, coupled with advanced genetic engineering capabilities, continues to drive demand for mice models.

#### Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR attributed to increasing government support for biomedical research, rising healthcare expenditures, and expanding pharmaceutical industries in countries like China, Japan, and India. Additionally, the adoption of genetically modified mice models is increasing, driven by advancements in gene-editing technologies. Collaborations between Asian research institutes and global pharmaceutical companies are further fueling market expansion in this region.

#### Key players in the market

Some of the key players in Mice Model market include Allentown LLC, Charles River Laboratories International, Inc., Cyagen Biosciences Inc, Envigo, genOway S.A., Harbour Biomed, Hera Biolabs, Inotiv, Janvier Labs, Ozgene Pty Ltd, PolyGene, Sage Labs, Taconic Biosciences, Inc., The Jackson Laboratory, Trans Genic Inc. and TransCure bioServices .

#### Key Developments:

In February 2025, HBM Alpha Therapeutics Inc., an innovative biotechnology company incubated by Harbour BioMed, announced a strategic collaboration and license agreement with a business partner to advance novel therapies targeting corticotropin-releasing hormone for various disorders.

In February 2025, Harbour BioMed and Insilico Medicine achieved strategic collaboration to advance AI-driven antibody discovery and development. leveraging their respective technological strengths in antibody discovery and artificial intelligence.

#### Model Types Covered:

Inbred Mice

Genetically Engineered Mice

Hybrid/ Congenic Mice

Outbred Mice

Conditioned/Surgically Modified Mice

Spontaneous Mutant Mice

Other Model Types

#### Technologies Covered:

CRISPR/Cas9

Microinjection

Embryonic Stem Cell Injection

Nuclear Transfer

Other Technologies

#### Indications Covered:

Oncology

Cardiovascular Diseases

Diabetes & Metabolic Disorders

Immunology & Inflammation

Central Nervous System Disorders

Genetic Diseases

## Other Indications

### Applications Covered:

Breeding Services

Cryopreservation

Quarantine

Rederivation

Genetic Testing

Model Licensing

Other Applications

### End Users Covered:

Pharmaceutical & Biotechnology Companies

Academic & Research Institutes

Contract Research Organizations

Contract Development & Manufacturing Organizations

Other End Users

### Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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