+357 96 030922
info@marketpublishers.com

Global Gene Panel Market Size study, by Technique (Amplicon, Hybridization), by Design (Predesign, Custom), by Application (Cancer, Congenital Disease, Pharmacogenetics), by End User (Hospital, Research Center, Pharmaceutical Companies), and Regional Forecasts 2022-2032

https://marketpublishers.com/r/G83DB25BF98AEN.html
Date: May 2025
Pages: 285
Price: US$ 3,218.00 (Single User License)
ID: G83DB25BF98AEN

Abstracts

The Global Gene Panel Market is valued at approximately USD 1.43 billion in 2023 and is anticipated to expand at a robust CAGR of 19.20% over the forecast period 2024-2032. Gene panels, which allow for the simultaneous analysis of multiple genes linked to specific diseases, have emerged as vital tools in precision medicine. This technology is transforming diagnostic workflows by enabling clinicians to tailor treatment strategies to the genetic profile of individual patients. The evolution from single-gene tests to multi-gene panels marks a significant leap in genomic diagnostics, facilitating the early detection of complex conditions such as cancer, congenital disorders, and rare inherited diseases. With the convergence of bioinformatics, next-generation sequencing (NGS), and computational biology, gene panel testing has carved a definitive niche in clinical practice and research domains alike.

Fueled by escalating demand for targeted therapies and rising incidence of genetic disorders and cancers, the global gene panel market is experiencing considerable traction. The continued shift from conventional diagnostics to genomics-driven personalized medicine has catalyzed the demand for compact, cost-effective, and high-throughput solutions like gene panels. One of the principal drivers includes the increasing adoption of gene panels in oncology, where clinicians rely on comprehensive cancer panels to identify mutations and stratify patients for precision oncology treatments. In parallel, strategic collaborations between biotech firms, academic

+357 96 030922
info@marketpublishers.com

institutions, and clinical labs are accelerating innovation and regulatory approvals, thus furthering market growth. However, market expansion may be restrained by factors such as high costs of sequencing infrastructure, complex data interpretation, and reimbursement challenges in low- and middle-income regions.

The technological dichotomy of amplicon-based and hybridization-based techniques provides flexibility and scalability to accommodate diverse diagnostic applications. Amplicon panels, due to their high specificity and ease of use, remain preferred in focused diagnostic applications, whereas hybridization-based panels offer broader coverage, making them indispensable in comprehensive genomic profiling. Custom-designed panels tailored to specific research or clinical requirements are also gaining momentum, especially in academic research and biotech startups. These trends underscore the market's progression toward customizable, application-specific genomic solutions that support precision diagnostics and therapeutic decision-making.

Notably, the expansion of gene panel usage is also shaped by the increasing focus on non-oncology applications. For instance, pharmacogenetics has witnessed burgeoning interest, particularly as gene panels are deployed to predict individual responses to medications, enhancing drug efficacy while mitigating adverse effects. In congenital disease diagnostics, rapid and accurate gene panel testing is improving pediatric outcomes by facilitating timely interventions. The integration of artificial intelligence in sequencing data interpretation further augments diagnostic accuracy and clinical utility, positioning gene panels at the core of modern healthcare delivery frameworks.

Geographically, North America dominates the gene panel market, underpinned by advanced healthcare infrastructure, substantial R&D investment, and high adoption rates of NGS-based technologies. The United States leads the region due to a well-established regulatory environment, reimbursement support for genetic testing, and presence of major industry players. Europe follows closely, with countries like Germany and the UK making significant strides in integrating genetic testing into public healthcare. Meanwhile, the Asia Pacific region is anticipated to register the fastest growth over the forecast period, driven by burgeoning biotech ecosystems, increasing patient awareness, and government-led genomic initiatives in countries like China, Japan, and India.

Major market player included in this report are:

Illumina, Inc.

+357 96 030922
info@marketpublishers.com

Thermo Fisher Scientific, Inc.

Agilent Technologies, Inc.

F. Hoffmann-La Roche Ltd

QIAGEN N.V.

BGI Genomics Co., Ltd.

Oxford Nanopore Technologies plc

Eurofins Scientific SE

Bio-Rad Laboratories, Inc.

Integrated DNA Technologies, Inc.

Foundation Medicine, Inc.

ArcherDx (a part of Invitae Corporation)

PerkinElmer, Inc.

Myriad Genetics, Inc.

GENEWIZ, Inc.

The detailed segments and sub-segment of the market are explained below:

By Technique

Amplicon

Hybridization

By Design

+357 96 030922
info@marketpublishers.com

Predesign

Custom

By Application

Cancer

Congenital Disease

Pharmacogenetics

By End User

Hospital

Research Center

Pharmaceutical Companies

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

+357 96 030922
info@marketpublishers.com

- Spain
- Italy
- Rest of Europe

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea
- Rest of Asia Pacific

Latin America

- Brazil
- Mexico

Middle East & Africa

- Saudi Arabia
- South Africa
- Rest of MEA

+357 96 030922
info@marketpublishers.com

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

- Market Estimates & Forecast for 10 years from 2022 to 2032.
- Annualized revenues and regional level analysis for each market segment.
- Detailed analysis of geographical landscape with Country level analysis of major regions.
- Competitive landscape with information on major players in the market.
- Analysis of key business strategies and recommendations on future market approach.
- Analysis of competitive structure of the market.
- Demand side and supply side analysis of the market.

+357 96 030922
info@marketpublishers.com

Contents

CHAPTER 1. GLOBAL GENE PANEL MARKET EXECUTIVE SUMMARY

1.1. Global Gene Panel Market Size & Forecast (2022 – 2032)
1.2. Regional Summary
1.3. Segmental Summary
  1.3.1. By Technique
  1.3.2. By Design
  1.3.3. By Application
  1.3.4. By End User
1.4. Key Trends
1.5. Recession Impact
1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL GENE PANEL MARKET DEFINITION AND RESEARCH ASSUMPTIONS

2.1. Research Objective
2.2. Market Definition
2.3. Research Assumptions
  2.3.1. Inclusion & Exclusion
  2.3.2. Limitations
  2.3.3. Supply Side Analysis
    2.3.3.1. Availability
    2.3.3.2. Infrastructure
    2.3.3.3. Regulatory Environment
    2.3.3.4. Market Competition
    2.3.3.5. Economic Viability (Consumer’s Perspective)
  2.3.4. Demand Side Analysis
    2.3.4.1. Regulatory Frameworks
    2.3.4.2. Technological Advancements
    2.3.4.3. Environmental Considerations
    2.3.4.4. Consumer Awareness & Acceptance
2.4. Estimation Methodology
2.5. Years Considered for the Study
2.6. Currency Conversion Rates

CHAPTER 3. GLOBAL GENE PANEL MARKET DYNAMICS

+357 96 030922
info@marketpublishers.com

3.1. Market Drivers
3.1.1. Surging Adoption of Precision Medicine and Targeted Therapeutics
3.1.2. Rapid Technological Advancements in Next-Generation Sequencing
3.1.3. Growing Healthcare Expenditure and Genomic Research Funding
3.2. Market Challenges
3.2.1. High Capital and Operational Costs of Sequencing Platforms
3.2.2. Complexity of Bioinformatics Analysis and Data Interpretation
3.3. Market Opportunities
3.3.1. Emerging Adoption in Developing and Underserved Regions
3.3.2. Integration of Artificial Intelligence for Enhanced Diagnostic Accuracy
3.3.3. Development of Ultra-Multiplex and Syndromic Gene Panels

CHAPTER 4. GLOBAL GENE PANEL MARKET INDUSTRY ANALYSIS

4.1. Porter’s Five Forces Model
4.1.1. Bargaining Power of Suppliers
4.1.2. Bargaining Power of Buyers
4.1.3. Threat of New Entrants
4.1.4. Threat of Substitutes
4.1.5. Competitive Rivalry
4.1.6. Futuristic Approach to Porter’s Five Forces
4.1.7. Porter’s Five Forces Impact Analysis
4.2. PESTEL Analysis
4.2.1. Political
4.2.2. Economic
4.2.3. Social
4.2.4. Technological
4.2.5. Environmental
4.2.6. Legal
4.3. Top Investment Opportunity
4.4. Top Winning Strategies
4.5. Disruptive Trends
4.6. Industry Expert Perspective
4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL GENE PANEL MARKET SIZE & FORECASTS BY TECHNIQUE 2022 – 2032

+357 96 030922
info@marketpublishers.com

5.1. Segment Dashboard
5.2. Global Gene Panel Market: Technique Revenue Trend Analysis, 2022 & 2032 (USD Million)
5.2.1. Amplicon
5.2.2. Hybridization

CHAPTER 6. GLOBAL GENE PANEL MARKET SIZE & FORECASTS BY DESIGN 2022 – 2032

6.1. Segment Dashboard
6.2. Global Gene Panel Market: Design Revenue Trend Analysis, 2022 & 2032 (USD Million)
6.2.1. Predesign
6.2.2. Custom

CHAPTER 7. GLOBAL GENE PANEL MARKET SIZE & FORECASTS BY APPLICATION 2022 – 2032

7.1. Segment Dashboard
7.2. Global Gene Panel Market: Application Revenue Trend Analysis, 2022 & 2032 (USD Million)
7.2.1. Cancer
7.2.2. Congenital Disease
7.2.3. Pharmacogenetics

CHAPTER 8. GLOBAL GENE PANEL MARKET SIZE & FORECASTS BY END USER 2022 – 2032

8.1. Segment Dashboard
8.2. Global Gene Panel Market: End User Revenue Trend Analysis, 2022 & 2032 (USD Million)
8.2.1. Hospital
8.2.2. Research Center
8.2.3. Pharmaceutical Companies

CHAPTER 9. GLOBAL GENE PANEL MARKET SIZE & FORECASTS BY REGION 2022 – 2032

9.1. North America Gene Panel Market

+357 96 030922
info@marketpublishers.com

9.1.1. U.S. Gene Panel Market
9.1.1.1. Technique breakdown size & forecasts, 2022 – 2032
9.1.1.2. Design breakdown size & forecasts, 2022 – 2032
9.1.2. Canada Gene Panel Market
9.2. Europe Gene Panel Market
9.2.1. UK Gene Panel Market
9.2.2. Germany Gene Panel Market
9.2.3. France Gene Panel Market
9.2.4. Spain Gene Panel Market
9.2.5. Italy Gene Panel Market
9.2.6. Rest of Europe Gene Panel Market
9.3. Asia Pacific Gene Panel Market
9.3.1. China Gene Panel Market
9.3.2. India Gene Panel Market
9.3.3. Japan Gene Panel Market
9.3.4. Australia Gene Panel Market
9.3.5. South Korea Gene Panel Market
9.3.6. Rest of Asia Pacific Gene Panel Market
9.4. Latin America Gene Panel Market
9.4.1. Brazil Gene Panel Market
9.4.2. Mexico Gene Panel Market
9.4.3. Rest of Latin America Gene Panel Market
9.5. Middle East & Africa Gene Panel Market
9.5.1. Saudi Arabia Gene Panel Market
9.5.2. South Africa Gene Panel Market
9.5.3. Rest of Middle East & Africa Gene Panel Market

CHAPTER 10. COMPETITIVE INTELLIGENCE

10.1. Key Company SWOT Analysis
10.1.1. Illumina, Inc.
10.1.2. Thermo Fisher Scientific, Inc.
10.1.3. Agilent Technologies, Inc.
10.2. Top Market Strategies
10.3. Company Profiles
10.3.1. Illumina, Inc.
10.3.1.1. Key Information
10.3.1.2. Overview
10.3.1.3. Financial (Subject to Data Availability)

+357 96 030922
info@marketpublishers.com

10.3.1.4. Product Summary
10.3.1.5. Market Strategies
10.3.2. Thermo Fisher Scientific, Inc.
10.3.3. Agilent Technologies, Inc.
10.3.4. F. Hoffmann-La Roche Ltd
10.3.5. QIAGEN N.V.
10.3.6. BGI Genomics Co., Ltd.
10.3.7. Oxford Nanopore Technologies plc
10.3.8. Eurofins Scientific SE
10.3.9. Bio-Rad Laboratories, Inc.
10.3.10. Integrated DNA Technologies, Inc.
10.3.11. Foundation Medicine, Inc.
10.3.12. ArcherDx (Invitae Corporation)
10.3.13. PerkinElmer, Inc.
10.3.14. Myriad Genetics, Inc.
10.3.15. GENEWIZ, Inc.

CHAPTER 11. RESEARCH PROCESS

11.1. Research Process
11.1.1. Data Mining
11.1.2. Analysis
11.1.3. Market Estimation
11.1.4. Validation
11.1.5. Publishing
11.2. Research Attributes

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Global Gene Panel Market Size study, by Technique (Amplicon, Hybridization), by Design (Predesign, Custom), by Application (Cancer, Congenital Disease, Pharmacogenetics), by End User (Hospital, Research Center, Pharmaceutical Companies), and Regional Forecasts 2022-2032

Product link: https://marketpublishers.com/r/G83DB25BF98AEN.html

Price: US$ 3,218.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G83DB25BF98AEN.html