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Genomic Cancer Panel and Profiling Market - A Global and Regional Analysis: Focus on Tissue Testing, Cancer Panel Type, Cancer Type, Application, Technology, End User, and Region - Analysis and Forecast, 2025-2035

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Abstracts

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This report will be delivered in 7-10 working days.Global Genomic Cancer Panel and Profiling Market Industry Overview

The global genomic cancer panel and profiling market is experiencing significant growth, driven by advancements in precision medicine, next-generation sequencing (NGS), and biomarker-driven therapies. The increasing prevalence of cancer worldwide, coupled with the growing demand for personalized treatment approaches, has accelerated the adoption of genomic cancer panels for early diagnosis, prognosis, and therapy selection. According to the data published by the World Cancer Research Fund, in 2022, there were 19,976,499 cancer cases reported. Thus, increasing number of cancer cases is anticipated to accelerate demand for genomic cancer panel and profiling.

Genomic cancer profiling involves comprehensive genetic testing to identify mutations, gene alterations, and molecular signatures that influence cancer progression. These insights enable oncologists to select targeted therapies, predict patient response to treatment, and improve clinical outcomes. The rising use of liquid biopsy-based genomic testing, companion diagnostics, and AI-driven genomic data analysis is further expanding genomic cancer panel and profiling market potential.

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Industrial Impact

The genomic cancer panel and profiling market has significantly influenced the healthcare landscape, driven by key players such as Burning Rock Dx, Caris Life Sciences, Danaher Corporation, Exact Sciences and others. These companies have been at the forefront, providing cutting-edge products for genomic cancer panel and profiling.

Moreover, the market has been further shaped by strategic collaborations, mergers, and R&D investments, which enable companies to expand their global presence and introduce innovative solutions. With the increasing focus on understanding tissue architecture and disease mechanisms, the competitive landscape of the genomic cancer panel and profiling market is dynamic, with innovation and customer-centric approaches driving differentiation and growth.

The genomic cancer panel and profiling market report highlights that the market was valued at $XX million in 2024 and is expected to reach $XX million by the end of 2035. The market is expected to grow at a CAGR of XX% during the forecast period from 2025 to 2035.

Market Segmentation for Genomic Cancer Panel and Profiling Market:

Segmentation 1: by Tissue Testing

Solid Tissue Testing

Liquid Tissue Testing

Solid Tissue Testing Segment to Dominate the Genomic Cancer Panel and Profiling Market (by Tissue Testing)

The solid tissue testing segment is expected to dominate the genomic cancer panel and profiling market due to its widespread use in cancer diagnosis, precision oncology, and biomarker discovery. Solid tissue samples, typically obtained through biopsies or surgical resections, provide direct access to the tumor's genetic and molecular profile, allowing for highly accurate and comprehensive genomic analysis.

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Segmentation 2: by Cancer Panel Type

- Single Panel
- Multi-Gene Panel

Multi-Gene Panel Segment to Dominate the Genomic Cancer Panel and Profiling Market (by Cancer Panel Type)

Multi-gene panels have emerged as the dominant segment. These panels analyze multiple genes simultaneously, providing a comprehensive genetic profile that enhances the accuracy of cancer diagnosis and informs personalized treatment strategies. The ability to detect a wide array of genetic mutations in a single test makes multi-gene panels more efficient and cost-effective compared to single-gene panels. This efficiency has led to their widespread adoption in clinical settings, contributing to their market dominance.

Segmentation 3: by Cancer Type

- Lung Cancer
- Breast Cancer
- Colon Cancer
- Prostate Cancer
- Other Cancer

Breast Cancer Segment to Dominate the Genomic Cancer Panel and Profiling Market (by Cancer Type)

In the genomic cancer panel and profiling market, breast cancer emerges as the leading segment, primarily due to its high global incidence. In 2022, approximately 2.3 million women worldwide were diagnosed with breast cancer. This significant incidence has propelled extensive research collaborations and technological advancements in breast cancer diagnostics. Genomic panels have become instrumental in identifying specific

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genetic mutations associated with breast cancer, facilitating personalized treatment strategies and improving patient outcomes. The integration of these panels into clinical practice reflects a concerted effort to enhance precision medicine in oncology.

Segmentation 4: by Application

Clinical

Research

Clinical Segment to Dominate the Genomic Cancer Panel and Profiling Market (by Application)

The clinical application segment holds the largest market share and is expected to continue growing at a strong CAGR. Genomic cancer panels and profiling play a crucial role in precision oncology by enabling personalized treatment strategies. The clinical use of genomic cancer panels and profiling is rapidly expanding, driven by the growing demand for precision oncology, improved early detection, and enhanced treatment personalization. With pharmaceutical companies and healthcare institutions increasingly investing in personalized medicine, genomic cancer panels are becoming a cornerstone of modern oncology, improving survival rates and patient quality of life.

Segmentation 5: by Technology

Next-Generation Sequencing (NGS)

Polymerase Chain Reaction (PCR)

Fluorescence In-Situ Hybridization (FISH)

Immunohistochemistry (IHC)

Others

Next-Generation Sequencing (NGS) Technology to Dominate the Genomic Cancer Panel and Profiling Market (by Technology)

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Next-generation sequencing (NGS) is expected to dominate the genomic cancer panel and profiling market, driven by its unparalleled efficiency, accuracy, and scalability in cancer diagnostics and personalized medicine. As oncology shifts towards molecular-based, biomarker-driven therapies, NGS has become the preferred technology for comprehensive tumor profiling, early cancer detection, and therapy selection.

Segmentation 6: by End User

- Hospitals
- Research and Academic Institutions
- Clinical and Diagnostic Laboratories
- Other End Users

Hospitals Segment to Dominate the Genomic Cancer Panel and Profiling Market (by End User)

The hospitals segment is projected to dominate the genomic cancer panel and profiling market, driven by the increasing adoption of personalized medicine, precision oncology, and advanced molecular diagnostics in hospital settings. As cancer cases rise globally, hospitals play a crucial role in early detection, comprehensive tumor profiling, and therapy selection, making them the primary end users of genomic cancer testing. Further, leading hospitals are incorporating next-generation sequencing (NGS)-based genomic panels into routine cancer care to enhance treatment precision. Thus, genomic cancer panel and profiling market is anticipated to grow.

Segmentation 7: by Region

- North America
- U.S.
- Canada
- Europe

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Germany

U.K.

France

Italy

Spain

Rest-of-Europe

Asia-Pacific

Japan

China

India

South Korea

Australia

Rest-of-Asia-Pacific

Latin America

Brazil

Mexico

Rest of Latin America

Rest-of-the-World

In 2024, The North America region holds the largest share in the global genomic cancer panel and profiling market, driven by high cancer prevalence, advanced healthcare

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infrastructure, and significant investments in precision oncology. Additionally, the presence of key industry players such as Illumina, Thermo Fisher Scientific, and Foundation Medicine has contributed to continuous innovations and expansion in cancer genomics. Therefore, North America remains at the forefront of the genomic cancer panel and profiling market, positioning itself for sustained growth in the coming years.

Recent Developments in the Genomic Cancer Panel and Profiling Market

In April 2023, Agilent introduced the SureSelect Cancer CGP, a next-generation sequencing (NGS) assay designed to enhance precision oncology through comprehensive genomic profiling. This assay broadens the spectrum of biomarkers available for solid tumor analysis, offering a swift and efficient workflow.

In February 2023, Exact Sciences launched the OncoExTra therapy selection test in the U.S. This advanced NGS-based genomic test combines DNA and RNA analysis to provide a detailed molecular profile of a patient's cancer, delivering precise and actionable personalized results for clinicians and patients.

Demand – Drivers, Challenges, and Opportunities

Market Drivers:

Increasing Incidence of Cancer: The increasing incidence of cancer is a key driver propelling the genomic cancer panels and profiling market, as rising cancer cases worldwide necessitate advanced diagnostic and treatment solutions. With global cancer cases expected to increase by 77% by 2050, the demand for personalized medicine, early detection, and targeted therapies is intensifying. This surge has led to greater adoption of comprehensive genomic profiling (CGP) to identify actionable mutations, enabling oncologists to tailor treatments based on individual tumor genetics.

Market Challenges:

High Cost of Genomic Testing and Equipments: The high cost of genomic testing and equipment remains a significant barrier to the widespread adoption of genomic cancer panels and profiling. Comprehensive genomic profiling (CGP) tests using next-generation sequencing (NGS) can range from $1,000 to $5,000 per test, making them

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inaccessible to many patients, especially in low- and middle-income countries. Additionally, the cost of sequencing equipment, such as Illumina NovaSeq 6000 or Thermo Fisher Ion Torrent, can exceed $500,000 to $1 million, further adding to the financial burden for laboratories and healthcare institutions.

Market Opportunities:

> Expansion into Emerging Markets: The expansion into emerging markets presents a significant growth opportunity for the genomic cancer panels and profiling industry. With rising cancer incidence rates, improving healthcare infrastructure, and increased government investments in precision medicine, regions such as Asia-Pacific, Latin America, the Middle East, and Africa are becoming key targets for market expansion. According to GLOBOCAN, nearly 60% of new cancer cases and 70% of cancer-related deaths occur in low- and middle-income countries (LMICs). Therefore, the rising cancer burden in emerging markets is projected to accelerate the market growth.

How can this report add value to an organization?

Product/Innovation Strategy: The global genomic cancer panel and profiling market has been extensively segmented based on various categories, such as tissue testing, cancer panel type, cancer type, application, technology, end user, and region.

Growth/Marketing Strategy: Mergers, acquisitions, and product launches accounted for the maximum number of key developments.

Competitive Strategy: The global genomic cancer panel and profiling market has numerous established players with product portfolios. Key players in the global genomic cancer panel and profiling market analyzed and profiled in the study involve established players offering products for genomic cancer panel and profiling.

Methodology

Key Considerations and Assumptions in Market Engineering and Validation

> The base year considered for the calculation of the market size is 2024. The historical year analysis has been done from FY2021 to FY2023, and the market size has been calculated for FY2024 and projected for the period 2025-2035.

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The geographical distribution of the market revenue is estimated to be the same as the company's net revenue distribution. All the numbers are adjusted to two digits after decimals for report presentation reasons. However, the real figures have been utilized for compound annual growth rate (CAGR) estimation. CAGR is calculated from 2025 to 2035.

The market has been mapped based on different types of products available in the market and based on several indications. All the key manufacturing companies that have a significant number of offerings to the genomic cancer panel and profiling market have been considered and profiled in the report.

In the study, the primary respondent's verification has been considered to finalize the estimated market for the genomic cancer panel and profiling market.

The latest annual reports of each market player have been taken into consideration for market revenue calculation.

Market strategies and developments of key players have been considered for the calculation of sub-segment split.

The base currency considered for the market analysis is US$. Currencies other than the US$ have been converted to the US$ for all statistical calculations, considering the average conversion rate for that particular year. The currency conversion rate has been taken from the historical exchange rate of the Oanda website or from the annual reports of the respective company if stated.

Primary Research:

The primary sources involve industry experts in genomic cancer panel and profiling market, including the market players offering products and services. Resources such as CEOs, vice presidents, marketing directors, and technology and innovation directors have been interviewed to obtain and verify both qualitative and quantitative aspects of this research study.

The key data points taken from the primary sources include:

validation and triangulation of all the numbers and graphs

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validation of the report’s segmentation and key qualitative findings

understanding the competitive landscape and business model

current and proposed production values of a product by market players

validation of the numbers of the different segments of the market in focus

percentage split of individual markets for regional analysis

Secondary Research

Open Sources

Certified publications, articles from recognized authors, white papers, directories, and major databases, among others

Annual reports, SEC filings, and investor presentations of the leading market players

Company websites and detailed study of their product portfolio

Gold standard magazines, journals, white papers, press releases, and news articles

Paid databases

The key data points taken from the secondary sources include:

segmentations and percentage shares

data for market value

key industry trends of the top players of the market

qualitative insights into various aspects of the market, key trends, and emerging

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areas of innovation

quantitative data for mathematical and statistical calculations

Key Market Players and Competition Synopsis

The companies that are profiled have been selected based on inputs gathered from primary experts and analysing company coverage, product portfolio, and market penetration.

Some of the manufacturers in the genomic cancer panel and profiling market are:

Agilent Technologies, Inc.

ARUP Laboratories

Burning Rock Dx

Caris Life Sciences

Danaher Corporation

Exact Sciences

F. Hoffmann-La Roche Ltd.

Fulgent Genetics

Illumina, Inc.

Invitae Corporation

Laboratory Corporation of America Holdings

Thermo Fisher Scientific, Inc.

Paragon Genomics

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Genecast Biotechnologies Co. Ltd.

Tempus

Companies that are not a part of the aforementioned pool have been well represented across different sections of the report (wherever applicable).

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