

Global Genomics in Cancer Care Market Size study, by Technology (Next-Generation Sequencing, Comparative Genomic Hybridization, Fluorescence In Situ Hybridization), by Cancer Type (Breast Cancer, Lung Cancer, Colorectal Cancer), by Application (Diagnostic Testing, Prognostic Testing, Treatment Selection, Monitoring Response to Therapy), by Sample Type (Blood, Tissue, Urine), by Clinical Setting (Hospital-Based Laboratories, Commercial Laboratories, Research Institutions) and Regional Forecasts 2022-2032

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Abstracts

Global Genomics in Cancer Care Market is valued approximately at USD 40.47 billion in 2023 and is anticipated to grow with a remarkable CAGR of more than 15.14% over the forecast period 2024–2032. Genomics in cancer care is rapidly evolving into a cornerstone of precision oncology, enabling clinicians to tailor therapies based on the unique genetic architecture of individual tumors. By leveraging advanced genomic platforms such as next-generation sequencing (NGS), fluorescence in situ hybridization (FISH), and comparative genomic hybridization (CGH), healthcare providers can decipher intricate mutation patterns and chromosomal alterations. These technologies facilitate early detection, risk stratification, and real-time treatment monitoring. The market is experiencing a seismic shift as multi-omic data convergence and AI-powered bioinformatics transform cancer diagnostics from generalized approaches into highly specific molecular targeting paradigms.



The acceleration in genomic testing adoption is propelled by growing cancer prevalence, regulatory support for companion diagnostics, and the increasing availability of targeted therapies that depend on genomic insights. Additionally, major breakthroughs in NGS scalability and cost-effectiveness have catalyzed its integration into routine clinical workflows. Despite these advances, market expansion is somewhat impeded by high infrastructure costs, lack of skilled personnel, and the complex ethical and data privacy considerations surrounding genomic data. Furthermore, disparities in testing access across low- and middle-income regions raise questions about equitable implementation of precision medicine worldwide.

From guiding immunotherapy in lung cancer to identifying BRCA mutations in breast cancer patients, genomics now plays a pivotal role across the oncology continuum. Clinical applications span diagnostic and prognostic testing, treatment selection, and monitoring patient response to therapy. Blood-based liquid biopsies and tissue sampling continue to dominate, while non-invasive approaches such as urine-based genomic profiling are gaining traction due to their convenience and patient compliance. Hospital-based laboratories remain at the forefront of adoption, but commercial diagnostic labs and academic research institutions are becoming equally vital, especially in translational genomics and biomarker discovery.

The genomics value chain is becoming increasingly decentralized with the emergence of portable sequencing tools, cloud-based analytics, and AI-assisted data interpretation platforms that empower even mid-tier hospitals and oncology centers to offer advanced testing. With industry stakeholders coalescing around integrated genomic ecosystems, partnerships between biopharma giants and diagnostics innovators are fueling drug development pipelines. Additionally, government funding programs and public-private collaborations are accelerating research and enabling population-scale genomic screening efforts that hold the potential to reshape public health frameworks.

Regionally, North America commands the largest market share, underpinned by robust infrastructure, leading genomic research institutions, and favorable reimbursement landscapes. The U.S., in particular, is a genomics innovation powerhouse with a rich startup ecosystem and aggressive R&D investments. Europe follows with strong growth from precision medicine initiatives in Germany, the UK, and France. Meanwhile, Asia Pacific is poised for the highest CAGR during the forecast period, driven by rapidly expanding healthcare systems, growing cancer incidence, and government-backed genomics programs across China, India, Japan, and South Korea. Latin America and the Middle East & Africa are also steadily integrating genomics into their cancer care models, aided by international collaborations and technological transfer.



Major market player included in this report are:

Thermo Fisher Scientific Inc.

QIAGEN N.V.

Illumina, Inc.

Roche Diagnostics

PerkinElmer, Inc.

Becton, Dickinson and Company

Danaher Corporation

Myriad Genetics, Inc.

Bio-Techne Corporation

Merck KGaA

Agilent Technologies, Inc.

Bio-Rad Laboratories, Inc.

Siemens Healthineers

Genomic Health, Inc.

Abbott Laboratories

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

By Technology

Next-Generation Sequencing (NGS)



Comparative Genomic Hybridization (CGH)

Fluorescence In Situ Hybridization (FISH)

By Cancer Type

Breast Cancer

Lung Cancer

Colorectal Cancer

By Application

Diagnostic Testing

Prognostic Testing

Treatment Selection

Monitoring Response to Therapy

By Sample Type

Blood

Tissue

Urine

By Clinical Setting

Hospital-Based Laboratories



Commercial Laboratories

Research Institutions

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia



South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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.



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