

Cancer Biopsy Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Product (Instruments, Kits and Consumables, Services), By Type of Biopsy (Tissue Biopsies (Needle and Surgical Biopsies), Liquid Biopsies, Others), By Application (Breast Cancer, Colorectal Cancer, Lung Cancer, Prostate Cancer, Pancreatic Cancer, Ovarian Cancer, Others), By End User (Reference Laboratories, Hospitals and Physician Laboratories, Academic and Research Centers), By Region & Competition, 2021-2031F

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Abstracts

The Global Cancer Biopsy Market is projected to expand from USD 36.73 Billion in 2025 to USD 68.59 Billion by 2031, reflecting a Compound Annual Growth Rate (CAGR) of 10.97%. A cancer biopsy involves extracting fluid or tissue samples for pathological analysis to confirm the presence and specific type of malignancy. This market growth is supported by the rising global prevalence of oncological conditions and a growing preference for less invasive diagnostic methods that facilitate early detection. For instance, the American Cancer Society estimates that the United States will see 2,001,140 new cancer cases in 2024. This significant disease burden directly necessitates higher diagnostic volumes, fueling a sustained demand for reliable biopsy products across healthcare systems.

Despite these growth prospects, the sector faces considerable obstacles that limit its potential expansion. A primary impediment is the shortage of qualified pathologists and

radiologists needed to accurately interpret complex samples. This scarcity of skilled professionals creates diagnostic bottlenecks and restricts the availability of essential biopsy services, particularly in regions with limited resources.

Market Driver

Technological breakthroughs in liquid biopsy modalities are fundamentally transforming the sector by providing a minimally invasive substitute for traditional tissue extraction. This innovation enables the detection of circulating tumor DNA (ctDNA) via a simple blood draw, allowing for real-time tracking of disease progression and treatment response without the risks inherent in surgical procedures. The ability to offer comprehensive genomic profiling is driving rapid adoption among oncologists, especially for patients with difficult tissue access or those requiring longitudinal monitoring. This shift is demonstrated by substantial volume growth; Guardant Health reported in its 'Preliminary Fourth Quarter and Full Year 2024 Results' in January 2025 that it conducted approximately 206,700 oncology clinical tests, a 20% increase from the prior year, highlighting the surging clinical demand for these advanced diagnostic tools.

Simultaneously, the broadening of government-led cancer screening initiatives is significantly boosting diagnostic volumes by systematizing early detection efforts across large populations. Public health authorities are increasingly implementing mandatory or recommended screening programs for high-prevalence malignancies such as breast, colorectal, and cervical cancers to lower mortality rates through timely intervention. For example, NHS England Digital's 'Breast Screening Programme, England, 2023-24' report from February 2025 notes that the program screened 1.95 million women and successfully detected 16,677 cancers, underscoring the massive scale of state-sponsored diagnostic activities. This proactive approach is essential given the growing disease burden; the World Health Organization estimated in February 2024 that there were 20 million new cancer cases globally in 2022, reinforcing the critical need for robust screening and biopsy infrastructure worldwide.

Market Challenge

The scarcity of skilled pathologists and radiologists acts as a severe bottleneck that directly hampers the expansion of the Global Cancer Biopsy Market. These specialists are essential to the diagnostic workflow, responsible for guiding precision biopsy procedures and interpreting complex tissue samples. When the workforce is insufficient to meet the rising volume of oncological cases, healthcare facilities face operational

constraints that severely limit their daily diagnostic capacity. This inability to process samples efficiently results in significant backlogs and prolonged turnaround times for results. Consequently, the volume of performable and billable biopsy procedures is effectively capped, reducing the utilization rate of biopsy consumables and devices, which in turn stalls revenue generation for manufacturers.

The gravity of this workforce gap is confirmed by recent industry data. According to the Royal College of Radiologists, the clinical radiology sector in the United Kingdom faced a 30% workforce shortfall in 2024. Such a deficit compels hospitals to prioritize emergency cases over routine diagnostic screenings, leading to a tangible reduction in the overall throughput of biopsy procedures. This scarcity directly restricts market growth, as the demand for diagnostic products cannot be fully realized without the necessary professionals to execute and analyze the tests.

Market Trends

The integration of artificial intelligence into histopathology is revolutionizing the interpretation of biopsy samples by enhancing both accuracy and workflow efficiency. Algorithms trained on extensive datasets of tissue images assist pathologists in identifying malignant cells with high precision, thereby reducing inter-observer variability and addressing diagnostic bottlenecks. This technological shift allows laboratories to process higher sample volumes and integrate clinical data for more comprehensive patient profiling, moving beyond the limits of traditional microscopy. According to Tempus AI's 'Third Quarter 2024 Financial Results' from November 2024, the company reported revenue of \$180.9 million, a 33% increase year-over-year, highlighting the growing commercial adoption of AI-enabled precision medicine platforms that leverage vast libraries of clinical and molecular data to support diagnostic decision-making.

In parallel, the adoption of robotic-assisted platforms for tissue acquisition is establishing new standards for procedural precision and patient safety. These automated systems utilize advanced navigation and articulation capabilities to access lesions in anatomical locations that are difficult to reach via conventional manual techniques, such as the peripheral lung. By stabilizing instrument movement and providing real-time visualization, robotic platforms significantly increase the diagnostic yield of tissue samples while minimizing trauma to surrounding healthy tissue. The market traction for these systems is evident; Intuitive Surgical reported in its 'Fourth Quarter and Full Year 2024 Financial Results' in January 2025 that the Ion endoluminal system saw a 73% growth in procedure volume during the fourth quarter compared to the prior year, reflecting a rapid shift towards robotic interventions for complex biopsy

procedures.

Key Market Players

QIAGEN N.V.

Illumina, Inc.

Guardant Health, Inc.

Thermo Fisher Scientific, Inc.

F. Hoffmann-La Roche Ltd.

Myriad Genetics, Inc.

Exact Sciences Corporation

GRAIL, LLC

Lucence Diagnostics Pte. Ltd.

ANGLE plc

Report Scope

In this report, the Global Cancer Biopsy Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Cancer Biopsy Market, By Product

Instruments

Kits and Consumables

Services

Cancer Biopsy Market, By Type of Biopsy

Tissue Biopsies (Needle and Surgical Biopsies)

Liquid Biopsies

Others

Cancer Biopsy Market, By Application

Breast Cancer

Colorectal Cancer

Lung Cancer

Prostate Cancer

Pancreatic Cancer

Ovarian Cancer

Others

Cancer Biopsy Market, By End User

Reference Laboratories

Hospitals and Physician Laboratories

Academic

Research Centers

Cancer Biopsy Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Cancer Biopsy Market.

Available Customizations:

Global Cancer Biopsy Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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