

Cytogenetics Market Size, Share, Forecast, & Trends Analysis by Offering (Consumables, Instruments, Software, Services), Technique (Comparative Genomic Hybridization, FISH, Karyotyping), Application (Clinical, Research), End User - Forecast to 2031

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Abstracts

Cytogenetics Market Size, Share, Forecast, & Trends Analysis by Offering (Consumables, Instruments, Software, Services), Technique (Comparative Genomic Hybridization, FISH, Karyotyping), Application (Clinical, Research), End User Global Forecast to 2031

The Cytogenetics Market was valued at \$2.6 billion in 2023. This market is expected to reach \$5.5 billion by 2031 from an estimated \$2.9 billion in 2024, at a CAGR of 9.6% during the forecast period of 2024-2031.

Succeeding extensive secondary and primary research and in-depth analysis of the market scenario, the report comprises the analysis of key industry drivers, restraints, challenges, and opportunities. The growth of the global cytogenetics market is driven by increasing focus on preventive healthcare measures, prevalence of genetic abnormalities, increasing aging population and subsequent increase in various chronic diseases, growing need to reduce mounting healthcare cost and increasing focus on research and clinical diagnosis. However, lack of awareness about emerging diagnostic technologies, unfavorable reimbursement scenarios and technical limitations and complexities of the equipment are restraining the market's growth.

Furthermore, emerging economies: China, India, South Korea, and Southeast Asia,

increasing focus on target-based therapies and increase in predictive and presymptomatic genetic testing are expected to generate market growth opportunities. However, concerns regarding the security & privacy of genetic data, commercialization and scaling of genomic technologies and lack of standardized approaches in genetics are major challenges in the global cytogenetics market.

The report offers a competitive landscape based on an extensive assessment of the product portfolio offerings, geographic presences, and key strategic developments adopted by leading market players in the industry over years (2021–2024). The key players operating in the cytogenetics market are Thermo Fisher Scientific, Inc. (U.S.), Abbott Laboratories (U.S.), Agilent Technologies, Inc. (U.S.), Revvity, Inc. (U.S.), Bio-Rad Laboratories, Inc. (U.S.), Applied Spectral Imaging, Inc. (U.S.), Quest Diagnostics Incorporated (U.S.), F. Hoffmann-La Roche Ltd. (Switzerland), Danaher Corporation (U.S.), Illumina, Inc. (U.S.) and Sysmex Corporation (Japan)

Among all the offerings studied in this report, the consumables segment is projected to register the highest CAGR of 10.2% during the forecast period. The high CAGR of the segment is attributed to the high demand of consumables for routine cytogenetic testing and research, increased diagnostic applications due to growing prevalence of genetic disorders, technological advancements in consumables and recurring use of consumables.

Among all the techniques studies in this report, in 2024, comparative genomic hybridization accounted for the larger share of 56.7%. technological advancements such as array comparative genomic hybridization and inkjet microarray manufacturing, CGH helps in early disease diagnosis and simplifies diagnostic procedures, optimize probe creation algorithms, clone library development, and its application in identifying diagnostic and therapeutic targets. These factors are contributing to the growth of largest share of the segment.

Among all the applications studied in this report, in 2024, clinical applications segment accounted for the largest share of 82.6%. The segment's larger share can be attributed to the increasing prevalence of genetic disorders and cancers, advancements in diagnostic technologies, rising patient awareness and government initiatives for early diagnosis, growing adoption of personalized medicine, and wide diagnostic applications.

An in-depth analysis of the geographical scenario of the global cytogenetics market provides detailed qualitative and quantitative insights into the five major geographies (North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa)

along with the coverage of major countries in each region. Asia Pacific is projected to register the highest CAGR of 10.2% during the forecast period. The fastest growth of the market is due to the rising pharmaceutical R&D spending, growth in the biotechnology industry, the increasing prevalence of chronic and infectious diseases, and the rising number of diagnostic laboratories are further expected to drive the cytogenetics market in the region.

Scope of the Report:

Cytogenetics Market Assessment—by Offering

Consumables

Kits & Reagents

Testing Kits

Probes

Other Reagents

Other Consumables

Instruments

Software

Services

(Note 1: other reagents include sample preparation and assays)

(Note 2: other consumables include columns, strainers, tips, holders, adapters, caps, digestion vessels, and cartridges.)

Cytogenetics Market Assessment—by Technique

Comparative Genomic Hybridization

Fluorescence In Situ Hybridization (FISH)

Karyotyping

Other Techniques

(Note: Other Techniques include sister chromatid exchange (SCE))

Cytogenetics Market Assessment—by Application

Clinical Applications

Prenatal & Genetic Testing

Oncology

Other Clinical Applications

Research Applications

(Note: Other clinical applications include hematology, predictive and presymptomatic testing, and preimplantation testing)

Cytogenetics Market Assessment—by End User

Clinical & Diagnostic Laboratories

Pharmaceutical & Biotechnology Companies

Research & Academic Institutes

Other End Users

(Note: Other end users include agriculture companies, food & beverage companies, and forensics)

Cytogenetics Market Assessment—by Geography

North America

U.S.

Canada

Europe

Germany

France

Italy

U.K.

Spain

Rest of Europe (RoE)

Asia-Pacific (APAC)

China

Japan

India

Rest of Asia-Pacific (RoAPAC)

Latin America

Middle East & Africa

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(Note: Swot Analysis* Will Be Provided of The Top 5 Companies)

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