

# **Fertility Epigenetic Benchmarking Market Forecasts to 2032 – Global Analysis By Component (Products and Services), Technology (DNA Methylation, Histone Modification and RNA Sequencing), Application, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Fertility Epigenetic Benchmarking Market is accounted for \$655.05 million in 2025 and is expected to reach \$2226.67 million by 2032 growing at a CAGR of 19.1% during the forecast period. Fertility epigenetic benchmarking is the study and analysis of epigenetic markers that influence reproductive health, embryo development, and fertility outcomes. It provides insights into genetic regulation, lifestyle impacts, and environmental factors affecting fertility. This emerging market is gaining attention due to rising infertility rates, delayed parenthood trends, and advancements in reproductive medicine. Applications span diagnostics, assisted reproductive technologies (ART), and personalized treatment planning. Ongoing research and collaborations between biotech, fertility clinics, and genomics firms are shaping the commercialization of fertility epigenetic benchmarking.

According to WHO, about 1 in 6 people worldwide experience infertility during their lifetime, highlighting the scale of fertility assessment needs that underpin advanced diagnostics, including epigenetic benchmarking.

Market Dynamics:

Driver:

Rising infertility rates globally

The escalating prevalence of infertility worldwide is a significant driver for the fertility epigenetic benchmarking market. Factors such as delayed childbearing, environmental toxins, and lifestyle changes contribute to this rise. Consequently, there is an increasing demand for advanced diagnostic tools and personalized treatment options. Epigenetic profiling offers insights into gene expression patterns, aiding in the identification of potential fertility issues. This approach facilitates tailored interventions, enhancing treatment efficacy and patient outcomes. Moreover, the integration of epigenetic data into fertility assessments is becoming a standard practice in reproductive medicine.

#### Restraint:

##### Limited awareness among patients

A significant restraint in the fertility epigenetic benchmarking market is the limited awareness among patients regarding the benefits and availability of epigenetic testing. Many individuals remain uninformed about how epigenetic factors influence fertility and reproductive health. This lack of awareness can lead to delayed diagnoses and missed opportunities for early intervention. Educational initiatives and awareness campaigns are essential to inform patients about the importance of epigenetic factors in fertility. Increasing patient knowledge can drive demand for epigenetic testing and personalized fertility treatments.

#### Opportunity:

##### Collaboration between biotech and fertility clinics

There is a growing opportunity for collaboration between biotechnology companies and fertility clinics to advance the field of fertility epigenetic benchmarking. Partnerships can lead to the development of innovative diagnostic tools and therapies that integrate epigenetic insights. Such collaborations can enhance the accuracy of fertility assessments and the effectiveness of treatments. Additionally, joint efforts can facilitate the sharing of knowledge and resources, accelerating research and development in reproductive medicine. These partnerships have the potential to revolutionize fertility care by offering personalized and precise solutions.

#### Threat:

##### Public skepticism of epigenetic interventions

A notable threat to the fertility epigenetic benchmarking market is public skepticism regarding the safety and efficacy of epigenetic interventions. Concerns about the long-term effects and ethical implications of modifying epigenetic factors can deter patients from opting for such treatments. This skepticism may hinder the widespread adoption of epigenetic-based fertility solutions. Addressing these concerns through transparent communication, rigorous clinical trials, and ethical guidelines is crucial to build public trust and acceptance.

#### Covid-19 Impact:

The COVID-19 pandemic has had a multifaceted impact on the fertility epigenetic benchmarking market. The crisis led to disruptions in fertility treatments and a temporary halt in elective procedures, affecting patient access to care. Moreover, the pandemic heightened stress levels and economic uncertainties, influencing reproductive decisions and delaying family planning. However, the crisis also accelerated the adoption of telemedicine and remote consultations in fertility care. Additionally, the pandemic underscored the importance of resilience in reproductive health, potentially driving future investments in innovative fertility solutions.

The products segment is expected to be the largest during the forecast period

The products segment is expected to account for the largest market share during the forecast period. This segment encompasses a wide range of diagnostic tools, reagents, and kits essential for epigenetic analysis in fertility assessments. The increasing demand for personalized fertility treatments and the integration of epigenetic testing into routine clinical practice are key factors driving the growth of this segment. Moreover, advancements in product development and the introduction of more efficient and user-friendly diagnostic tools are expected to further propel the market.

The RNA sequencing segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the RNA sequencing segment is predicted to witness the highest growth rate. RNA sequencing allows for comprehensive analysis of gene expression profiles, providing valuable insights into the molecular mechanisms underlying fertility. The increasing application of RNA sequencing in reproductive health research and its potential to identify biomarkers for fertility are driving its adoption. Additionally, technological advancements and decreasing costs associated with RNA

sequencing are making this approach more accessible to clinical settings, contributing to its rapid growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share. This dominance is attributed to the presence of advanced healthcare infrastructure, high healthcare expenditure, and a strong focus on research and development in the region. Additionally, the increasing prevalence of infertility and the growing demand for personalized fertility treatments are propelling market growth. The region's well-established biotechnology sector and regulatory support further enhance the adoption of innovative fertility solutions, solidifying its leading position in the market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR in the fertility epigenetic benchmarking market. Factors such as rising infertility rates, increasing awareness about reproductive health, and advancements in healthcare infrastructure contribute to this rapid growth. The region's large population base and evolving socio-economic conditions are driving the demand for fertility services and personalized treatments. Moreover, government initiatives and investments in biotechnology research are fostering innovation and adoption of epigenetic technologies in fertility care, positioning Asia Pacific as a key growth hub.

Key players in the market

Some of the key players in Fertility Epigenetic Benchmarking Market include Illumina, Thermo Fisher Scientific, Merck KGaA, QIAGEN, F. Hoffmann-La Roche, PacBio, Danaher, Bio-Rad Laboratories, Promega, New England Biolabs, Zymo Research, Hologic, Active Motif, Chroma Medicine, CooperSurgical, Inherent Biosciences, Vitrolife, and Ferring Pharmaceuticals.

Key Developments:

In February 2025, New England Biolabs presented latest innovations at AGBT 2025, showcasing the NEBNext Enzymatic Methyl-seq v2 kit that enables DNA input as low as 100 picograms, expanding applications for epigenetic research. Also featured new epigenetics tools including 5hmC detection, enzymatic DNA fragmentation, and chromatin structure analysis improvements.

In January 2025, QIAGEN partnered with Genomics England to support the Generation Study, providing clinically relevant variant content for genes in a point-of-care sequencing test to screen 100,000 newborns in England for over 200 treatable conditions.

In November 2024, PacBio announced formation of the HiFi Solves Sub-fertility Consortium, uniting leading experts and leveraging HiFi sequencing technology alongside DNASTACK's federated data platform to advance diagnosis and treatment of subfertility and recurrent pregnancy loss.

#### Components:

Products

Services

#### Technologies Covered:

DNA Methylation

Histone Modification

RNA Sequencing

#### Applications Covered:

Male Infertility

Female Infertility

Assisted Reproductive Technology (ART)

Predictive Diagnostics and Prognostics

#### End Users Covered:

Fertility Clinics and Hospitals

Academic and Research Institutes

Pharmaceutical and Biotechnology Companies

Diagnostic Laboratories

Contract Research Organizations (CROs)

#### Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032

- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

### **Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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