

Artificial Intelligence Clinical Genomics Interpretation Market to Reach \$4.68 Billion by 2029 with 28.1% CAGR

*The Business Research Company's
Artificial Intelligence Clinical Genomics
Interpretation Global Market Report 2025
- Market Size, Trends, And Forecast To
2034*

LONDON, GREATER LONDON, UNITED
KINGDOM, October 8, 2025

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What Is The Artificial Intelligence Clinical Genomics Interpretation Market Size And Growth?

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The [market size of artificial intelligence interpretations in clinical genomics](#) has seen phenomenal growth in recent times. Projected to balloon from \$1.35 billion in 2024 to \$1.74 billion in 2025, the field is expected to expand at a compound annual growth rate (CAGR) of about 28.5%. This notable rise throughout history is credited to an amplified adoption of AI in the healthcare sector, a climbing demand for bespoke medication, expanding access to genomic data, the elevation in computational power for AI algorithms, and an upswing in investments oriented towards AI-based diagnostics.

Forecasting substantial [growth of artificial intelligence clinical genomics interpretation market](#) in the next few years, predictions suggest it will increase to \$4.68 billion in 2029. This represents a compound annual growth rate (CAGR) of 28.1%. The expected growth can be tied to an increased adoption of AI-powered genomic tools alongside heightened demand for precision medicine. This growth can also be attributed to the increase in cloud-based analytics integrations, a surge in government funding for genomic studies and a growing trend of using real-world data for clinical decision-making processes. During the forecast period, key trends are predicted to

include developments in AI-driven analytics, innovation in amalgamating multi-omics data, incorporation of AI into electronic health outcomes, strides in real-time genomic interpretation and novel solutions in explainable AI for clinical genomics - all factors conducive to increased growth in this sector.

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What Are The Current Leading Growth Drivers For Artificial Intelligence Clinical Genomics Interpretation Market?

The burgeoning need for personalized medicine is predicted to fuel the expansion of the artificial intelligence clinical genomics interpretation market in the future. Personalized medicine is a medical tactic that adapts diagnosis, treatment, and prevention schemes to a person's genes, environment, and way of life. The surge in the need for this approach is due to its increased effectiveness, as therapies are modified to suit an individual's genetic makeup, enhancing the results and lowering the likelihood of negative effects. Artificial intelligence clinical genomics interpretation boosts the demand for personalized medicine, as it quickly sifts through intricate genomic data to uncover precise, person-specific treatments, enhancing the potency of the therapy, and decreasing the reliance on trial-and-error strategies. For instance, in February 2024, the Personalized Medicine Coalition, a non-profit organization based in the US, reported that in 2023, the U.S. Food and Drug Administration (FDA) granted approval to 16 new personalized treatments for patients suffering from rare diseases, representing a significant climb from the six authorized in 2022. Thus, the escalating need for personalized medicine is projected to stimulate the growth of the artificial intelligence clinical genomics interpretation market.

Which Companies Are Currently Leading In The Artificial Intelligence Clinical Genomics Interpretation Market?

Major players in the Artificial Intelligence Clinical Genomics Interpretation Global Market Report 2025 include:

- F. Hoffmann-La Roche AG
- NVIDIA Corporation
- Illumina Inc.
- QIAGEN N.V.
- Tempus Labs Inc.
- GeneDx Inc.
- Freenome Inc.
- NantHealth Inc.
- SOPHiA GENETICS SA
- Genomenon Inc.

What Are The Main Trends, Positively Impacting The Growth Of Artificial Intelligence Clinical Genomics Interpretation Market?

The focus of leading businesses in the artificial intelligence clinical genomics interpretation market is on innovations that improve scalability for large genomic research, allowing for efficient data processing, enhancing the precision of genomic understanding, and expediting biomarker and therapeutic target identification. Scalability, in this context, refers to the ability of AI systems to analyze large and complicated genomic data sets effectively without sacrificing speed or accuracy, a critical need as the volume and complexity of sequencing continue to grow. For example, in December 2024, QIAGEN, a life sciences firm based in Germany, introduced an AI-powered enhancement for its Ingenuity Pathway Analysis (IPA) platform to facilitate the interpretation of complicated biological data. This enhancement employs AI to pinpoint crucial genes, pathways, and molecular networks involved in diseases, and merges with QIAGEN's Biomedical Knowledge Base which includes hundreds of millions of AI-generated relationships, thus enabling more precise and data-backed insights.

How Is The Artificial Intelligence Clinical Genomics Interpretation Market Segmented?

The artificial intelligence clinical genomics interpretation market covered in this report is segmented as

- 1) By Component: Software, Services
- 2) By Deployment Mode: Cloud Based, On Premises
- 3) By Application: Oncology, Rare Diseases, Pharmacogenomics, Infectious Diseases, Other Applications
- 4) By End User: Hospitals And Clinics, Research Institutes, Diagnostic Laboratories, Other End User

Subsegments:

- 1) By Software: Genomic Data Analysis, Variant Interpretation, Clinical Decision Support, Predictive Modeling, Reporting And Visualization
- 2) By Services: Implementation And Integration, Consulting And Advisory, Training And Support, Data Management, Maintenance And Upgrades

View the full artificial intelligence clinical genomics interpretation market report:

<https://www.thebusinessresearchcompany.com/report/artificial-intelligence-clinical-genomics-interpretation-global-market-report>

Which Is The Dominating Region For The Artificial Intelligence Clinical Genomics Interpretation Market?

In 2024, the artificial intelligence clinical genomics interpretation market was dominated by North America. The report predicts that the fastest-growing region by 2025 will be Asia-Pacific. Covered within the report are regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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