+357 96 030922
info@marketpublishers.com

# Artificial Intelligence (AI) in Genomics Market - Strategic Insights and Forecasts (2026-2031)

https://marketpublishers.com/r/ACDCF571C665EN.html
Date: February 2026
Pages: 144
Price: US$ 3,950.00 (Single User License)
ID: ACDCF571C665EN

## Abstracts

The Global Artificial Intelligence (AI) in Genomics market is forecast to grow at a CAGR of 33.3%, reaching USD 14.3 billion in 2031 from USD 3.4 billion in 2026.

The artificial intelligence in genomics market is positioned at the intersection of advanced data analytics and life sciences innovation. The sector is expanding rapidly as healthcare systems shift toward precision medicine, personalized therapies, and data-driven diagnostics. Growing volumes of genomic data generated through sequencing technologies are creating strong demand for computational tools capable of extracting meaningful biological insights. AI technologies are increasingly embedded in research, drug discovery, and clinical decision-making, strengthening the strategic importance of this market across healthcare and biotechnology ecosystems.

Macroeconomic drivers include rising global disease burden, particularly cancer, increasing investments in genomics research, and expanding pharmaceutical research pipelines. AI is enabling efficient analysis of complex genetic data, supporting targeted treatment development and improved patient outcomes. The convergence of computing power, digital health infrastructure, and expanding genomic databases is accelerating adoption across both research and clinical environments.

Market Drivers

The growing demand for precision medicine is a primary growth catalyst. Healthcare providers are increasingly using genetic information to tailor treatments based on individual patient profiles. AI tools enable large-scale genomic data interpretation, helping identify disease risks, treatment pathways, and therapy effectiveness. This capability is particularly valuable in oncology, where early detection and targeted

+357 96 030922
info@marketpublishers.com

therapies are critical.

Pharmaceutical and biotechnology industries are also driving adoption. AI accelerates drug discovery by identifying genetic markers linked to disease, predicting treatment responses, and reducing research timelines. The ability to analyze large genomic datasets improves accuracy and efficiency in identifying therapeutic targets. Increasing investment in genomic research and declining sequencing costs are further supporting demand for AI-enabled analytical tools.

Rising global cancer incidence and broader disease management needs are strengthening market momentum. AI-based genomics supports early detection and personalized treatment planning, improving clinical outcomes and reducing healthcare costs over time.

Market Restraints

Despite strong growth potential, several structural challenges remain. Genomic data complexity requires high-performance computing infrastructure and advanced analytical capabilities, which can increase operational costs. Integration of diverse data sources also presents interoperability challenges across research and clinical systems.

Data quality and standardization issues limit the reliability of AI models, particularly in clinical applications. Variability in genomic datasets and privacy concerns can restrict data sharing and model training. Regulatory and ethical considerations around patient data usage also create compliance burdens for market participants.

Additionally, adoption barriers remain in healthcare environments where interpretability of AI-generated insights is critical for clinical trust and decision-making.

Technology and Segment Insights

The market is segmented by offering into software tools and services. Software platforms form the analytical backbone of genomic data interpretation, while services support implementation, consulting, and research integration.

By application, precision medicine represents a central use case, followed by diagnosis and prognosis, drug discovery and development, and agricultural genomics. Drug discovery applications are particularly significant due to the need for efficient identification of genetic targets and therapeutic pathways.

+357 96 030922
info@marketpublishers.com

End-user segmentation includes pharmaceutical and biotechnology companies, academic and research institutions, and hospitals and diagnostic centers. Pharmaceutical companies remain major adopters due to intensive research requirements and growing investment in genomic-based therapies.

Geographically, North America holds a substantial market share, supported by strong research infrastructure, advanced healthcare systems, and significant investment in genomics innovation.

Competitive and Strategic Outlook

The competitive environment includes technology providers, genomics specialists, and healthcare analytics firms. Key players are focused on developing advanced AI models, expanding data integration capabilities, and strengthening research collaborations.

Strategic partnerships between biotech firms and AI technology companies are increasing. Investment in predictive analytics, disease risk modeling, and personalized treatment platforms is shaping innovation. Ongoing technological development in sequencing, computational biology, and knowledge graph analytics is expected to enhance market capabilities.

Market competition is also influenced by research funding, platform scalability, and regulatory compliance frameworks.

Key Takeaways

The artificial intelligence in genomics market is evolving into a critical component of modern healthcare innovation. Strong demand for precision medicine, rapid advances in computational analytics, and expanding research activity are driving sustained growth. While data management and regulatory challenges persist, continued technological progress and strategic collaborations are expected to support long-term market expansion.

Key Benefits of this Report

- Insightful Analysis: Gain detailed market insights across regions, customer segments, policies, socio-economic factors, consumer preferences, and industry verticals.

+357 96 030922
info@marketpublishers.com

Competitive Landscape: Understand strategic moves by key players to identify optimal market entry approaches.

Market Drivers and Future Trends: Assess major growth forces and emerging developments shaping the market.

Actionable Recommendations: Support strategic decisions to unlock new revenue streams.

Caters to a Wide Audience: Suitable for startups, research institutions, consultants, SMEs, and large enterprises.

What businesses use our reports for

Industry and market insights, opportunity assessment, product demand forecasting, market entry strategy, geographical expansion, capital investment decisions, regulatory analysis, new product development, and competitive intelligence.

Report Coverage

Historical data from 2021 to 2025 and forecast data from 2026 to 2031

Growth opportunities, challenges, supply chain outlook, regulatory framework, and trend analysis

Competitive positioning, strategies, and market share evaluation

Revenue growth and forecast assessment across segments and regions

Company profiling including strategies, products, financials, and key developments

+357 96 030922
info@marketpublishers.com

# Contents


## 1. INTRODUCTION

1.1. Market Overview
1.2. Market Definition
1.3. Scope of the Study
1.4. Market Segmentation
1.5. Currency
1.6. Assumptions
1.7. Base and Forecast Years Timeline
1.8. Key Benefits for the Stakeholders

## 2. RESEARCH METHODOLOGY

2.1. Research Design
2.2. Research Process

## 3. EXECUTIVE SUMMARY

3.1. Key Findings

## 4. MARKET DYNAMICS

4.1. Market Drivers
4.2. Market Restraints
4.3. Porter’s Five Forces Analysis
  4.3.1. Bargaining Power of Suppliers
  4.3.2. Bargaining Power of Buyers
  4.3.3. Threat of New Entrants
  4.3.4. Threat of Substitutes
  4.3.5. Competitive Rivalry in the Industry
4.4. Industry Value Chain Analysis
4.5. Analyst View

## 5. AI IN GENOMICS MARKET BY OFFERING

5.1. Introduction
5.2. Software tools

+357 96 030922
info@marketpublishers.com

5.3. Services

## 6. AI IN GENOMICS MARKET BY APPLICATION

6.1. Introduction
6.2. Precision medicine
6.3. Diagnosis and prognosis
6.4. Drug discovery and development
6.5. Agriculture and animal breeding
6.6. Others

## 7. AI IN GENOMICS MARKET BY END-USER

7.1. Introduction
7.2. Pharmaceutical and biotechnology companies
7.3. Academic and research institutes
7.4. Hospitals and diagnostic centers
7.5. Others

## 8. AI IN GENOMICS MARKET BY GEOGRAPHY

8.1. Introduction
8.2. North America
  8.2.1. By Offering
  8.2.2. By Application
  8.2.3. By End-User
  8.2.4. By Country
    8.2.4.1. USA
    8.2.4.2. Canada
    8.2.4.3. Mexico
8.3. South America
  8.3.1. By Offering
  8.3.2. By Application
  8.3.3. By End-User
  8.3.4. By Country
    8.3.4.1. Brazil
    8.3.4.2. Argentina
    8.3.4.3. Others
8.4. Europe

+357 96 030922
info@marketpublishers.com

8.4.1. By Offering
8.4.2. By Application
8.4.3. By End-User
8.4.4. By Country
8.4.4.1. United Kingdom
8.4.4.2. Germany
8.4.4.3. France
8.4.4.4. Spain
8.4.4.5. Others
8.5. Middle East and Africa
8.5.1. By Offering
8.5.2. By Application
8.5.3. By End-User
8.5.4. By Country
8.5.4.1. Saudi Arabia
8.5.4.2. Israel
8.5.4.3. UAE
8.5.4.4. Others
8.6. Asia Pacific
8.6.1. By Offering
8.6.2. By Application
8.6.3. By End-User
8.6.4. By Country
8.6.4.1. China
8.6.4.2. Japan
8.6.4.3. India
8.6.4.4. South Korea
8.6.4.5. Australia
8.6.4.6. Vietnam
8.6.4.7. Indonesia
8.6.4.8. Others

## 9. COMPETITIVE ENVIRONMENT AND ANALYSIS

9.1. Major Players and Strategy Analysis
9.2. Market Share Analysis
9.3. Mergers, Acquisitions, Agreements, and Collaborations
9.4. Competitive Dashboard

+357 96 030922
info@marketpublishers.com

## 10. COMPANY PROFILES

10.1. IBM
10.2. Sophia Genetics SA
10.3. QIAGEN N.V.
10.4. Fabric Genomics, Inc.
10.5. Congenica Ltd.
10.6. Illumina, Inc.
10.7. Freenome Holdings, Inc.
10.8. Data4cure, Inc.
10.9. Tempus Labs, Inc.
10.10. NVIDIA Corporation

+357 96 030922
info@marketpublishers.com

## I would like to order

Product name: Artificial Intelligence (AI) in Genomics Market - Strategic Insights and Forecasts (2026-2031)

Product link: https://marketpublishers.com/r/ACDCF571C665EN.html

Price: US$ 3,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/ACDCF571C665EN.html