

Global Artificial Intelligence in Omics Studies Market Size Study, by Type (Genomics, Transcriptomics, Proteomics, Metabolomics, Epigenomics), by Application (Clinical Diagnostics, Drug Discovery & Development), by Technology (Machine Learning, Deep Learning, Others), by Offering (Software, Services) and Regional Forecasts 2024-2032

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Abstracts

The Global Artificial Intelligence in Omics Studies Market is valued approximately at USD 5.74 Billion in 2023 and is anticipated to grow with a healthy growth rate of more than 22.53% over the forecast period 2024-2032. Artificial Intelligence (AI) in omics studies refers to the application of AI technologies to analyze, interpret, and derive insights from large-scale omics data, which include genomics, proteomics, metabolomics, transcriptomics, and other -omics disciplines. AI enhances omics research by leveraging advanced computational methods to handle the complex and voluminous data generated in these studies. Furthermore, the integration of AI in omics studies is revolutionizing data analytics, biomarker discovery, and personalized medicine, providing transformative capabilities that enhance precision and efficiency in healthcare research and diagnostics.

The increasing volume and complexity of omics data, combined with the rising demand for precision medicine, have facilitated the integration of AI into omics studies. Key factors driving market growth include AI's ability to accelerate data analysis, improve predictive modeling, and develop personalized healthcare plans. Trends such as the emergence of deep learning, machine learning, and cloud computing are enabling AI algorithms to efficiently handle large datasets, enhancing the accuracy and effectiveness of omics research. The focus on interpretable AI is also fostering

transparency and accountability in AI models, gaining trust within the medical sector.

The key regions considered for the global Artificial Intelligence in Omics Studies market study include North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa. North America is expected to dominate the market, driven by substantial investments in healthcare IT, demand for personalized medicine, and advanced AI technologies for data analysis. The region benefits from a strong foundation in advanced technology infrastructure and significant investments in research and development, particularly in biotechnology and computational biology. Major research institutions, leading tech companies, and biotech firms in North America are at the forefront of integrating AI with omics studies, facilitating innovative discoveries and applications. Additionally, the availability of extensive and diverse datasets, coupled with a supportive regulatory environment and robust funding mechanisms, further supports the growth and adoption of AI technologies in this field. Europe is anticipated to show significant growth due to its well-established healthcare infrastructure and high research spending. The Asia-Pacific region is projected to exhibit the fastest growth rate, supported by expanding healthcare sectors and increasing governmental emphasis on AI technology.

Major market players included in this report are:

Pacific Biosciences of California, Inc.

Myriad Genetics, Inc.

BD (Becton, Dickinson and Company)

BioRad Laboratories, Inc.

Oxford Nanopore Technologies, PLC

PerkinElmer, Inc.

Agilent Technologies

Sequenom, Inc.

QIAGEN

Illumina, Inc.

Trimble Inc.

Abbott Laboratories

Thermo Fisher Scientific

Hoffmann-La Roche Ltd.

Novogene Co., Ltd.

The detailed segments and sub-segments of the market are explained below:

By Type:

Genomics

Transcriptomics

Proteomics

Metabolomics

Epigenomics

By Application:

Clinical Diagnostics

Drug Discovery & Development

By Technology:

Machine Learning

Deep Learning

Others

By Offering:

Software

Services

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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