

DNAexus[®] Titan™

The DNAexus Biomedical Platform for Powering Advancements in Precision Medicine



Data-Driven Precision Medicine

The healthcare industry is pushing to provide personalization in care delivery. To achieve this goal, data-driven precision medicine is being adopted across the healthcare industry. Precision medicine seeks to use next-generation sequencing (NGS) data to help providers discover early signs of disease or point to underlying causes of clinical changes, leading to more personalized and effective treatments. NGS technology is growing in use in oncology and immunotherapy, but challenges remain – from managing the expanding amount of genomics data, integrating with clinical and patient’s lifestyle data, ensuring adherence to strict security, privacy, and compliance regulations, and lack of resources and training to apply NGS technology in healthcare to analyze genomic data will need to be overcome to realize the goal of personalization in medicine.

DNAexus Titan is a central bioinformatics platform providing an integrated storage, elastic computing, and analysis platform that supports the translation of heterogeneous data including multi-omics, clinical and imaging data to enable clinical experts to derive knowledge from the data and enable decision-making that has a positive impact on patient care. We have partnered with healthcare providers to enable precision medicine and have capabilities across multiple disease areas including oncology, rare diseases, cardiology, and common diseases. Multiple medical and science users can securely collaborate across different projects in a compliant manner. DNAexus supports scientists and clinicians at all levels by providing a genomics workbench for data scientists and bioinformatics researchers, as well as use-case focused analysis solutions that require limited assembly.

Empower Your Team

- ✓ **Dynamic environment for advanced multi-omics analysis**
- ✓ **Research & clinical workflows**
- ✓ **Full traceability & data provenance**

“DNAexus will allow us to collaborate across partner cancer centers and optimize the translation of discoveries into practical applications in pursuit of more precise cancer treatments.”

Samir Courdy, PhD
Chief Informatics Officer



Multi-omics at Scale

The massive amount of data generated by NGS requires considerable time and skills for proper variant analysis and interpretation. DNAnexus Titan's high-performance helps eliminate storage and compute concerns and provides powerful compute and processing capacity, allowing you to focus on finding answers from complex data, and optimizing data-driven decisions for clinical care.

Medical teams can securely collaborate by sharing data and tools, accessing a JupyterLab environment, tracking data provenance, and ensuring uniform reproducibility, including highly parallelizable execution of data analysis.

With a flexible environment built to scale, DNAnexus Titan enables population-level analysis, meets computation demands, and exceeds multi-omics storage demands.

Streamline Efficiencies

Medical teams can efficiently create and execute research and clinical NGS analysis with both industry-standard and custom-developed bioinformatics tools. DNAnexus Titan's efficient Smart Reuse feature eliminates long processing delays when testing new multi-omics pipeline versions.

Collaborative Platform

DNAnexus powers collaboration by combining data and centralizing multi-omics analysis in a secure cloud environment to empower knowledge sharing across your organization.

Reduce Risk

A daily log of activities related to users and projects, including login, upload/download files, run analysis, and data sharing, supports seamless auditability and de-risked audits. DNAnexus Titan is certified compliant with strict security, quality, and regulatory regimes, including ISO27001, NIST 800 framework, HIPAA, GDPR, GxP/ICH regulations, and CAP/CLIA, PHI-enabled, and FedRAMP Moderate. The environment maintains compliance with global data transfer requirements.

Administrative Simplicity

By migrating from an on-premises infrastructure to a cloud-based platform, administration efforts are significantly reduced. DNAnexus Titan can handle software deployment, monitoring and operations, and continuous service upgrades with 99% uptime.

Expert Professional Services

The DNAnexus xVantage Group consists of bioinformatics scientists and computational experts ready to help new clients ramp up quickly and get the most out of DNAnexus Titan. Their expertise in industry best practices and emerging techniques guide organizations through data and pipeline migration, optimization, and development.

DNAnexus[®]

DNAnexus has built the world's most secure, trusted cloud platform and global network for medical and scientific collaboration and accelerated discovery. We partner with healthcare providers to tackle some of the most exciting opportunities in human health and beyond.

Our powerful platform has helped over 100 customers in pharma & biotech companies, healthcare organizations, and government agencies push the boundaries of data-driven precision medicine.

Visit dnanexus.com/product-overview/titan to learn more.