

DNAexus[®] Apollo[™]

Multi-omics & Clinical Data Exploration
for Drug Discovery



The Promise and Challenge of Big Data

Genomics and other omics data are becoming increasingly ubiquitous - giving scientists the opportunity to make discoveries that can radically improve our understanding of, and ability to treat, a wide range of serious diseases.

Accelerating drug discovery requires collecting, organizing, combining, analyzing, and gaining insights from huge volumes of multi-omics and clinical data. These datasets are incredibly rich resources, but most cloud or home-grown informatics tools can't keep up with their growing size and complexity. Precision research programs can be hampered by siloed data sources, underpowered collaboration tools, and the burden of complex and ever-changing regulatory and security requirements.

“*DNAexus has been at the forefront of genome informatics for many years and understands the challenges around consortia-scale data management solutions and the industry's rigorous security and compliance standards. DNAexus Apollo will allow us to collaborate across partner cancer centers and optimize the translation of basic discoveries into practical clinical applications in pursuit of more precise cancer treatments for patients.*”

Samir Courdy
Chief Informatics Officer



Unlocking the Power of Cutting-Edge Collaborative Analysis

DNAexus Apollo[™] enables precision research by empowering bioinformaticians, data scientists, biologists, and clinician researchers to explore and analyze omics and clinical data together, on a secure and scalable cloud platform. Researchers can share and collaborate on data, tools, and analyses easily and securely with peers across the globe.

- ✓ Leverage a purpose-built bioinformatics system for multi-omics & and clinical health data
- ✓ Keep your data Findable, Accessible, Interoperable & Reusable, in accordance with the FAIR Principles
- ✓ Enable cohort-to-insight analysis
- ✓ Simplify & strengthen team collaboration
- ✓ Safeguard sensitive data & mitigate compliance risk

Multi-omics & Clinical Data Exploration for Drug Discovery

Extracting value from large multi-modal genomics, omics and healthcare data is a challenge. DNAnexus Apollo™ makes it easier, with industry leading analysis and visualization tools - all in a secure and compliant environment.

Robust Data Management

Organize and structure clinical and multi-omics data for your scientific research. DNAnexus Apollo supports custom and common data models, such as OMOP, CDISC, PCORNET.

Findability and Accessibility

DNAnexus Apollo's dataset structure lets your data be represented in its most appropriate manner, and allows for dataset annotation, so users spend less time on data orientation and more time driving towards results.

Comprehensive Analytical Tools

DNAnexus Apollo comes with ready-to-use frameworks, pipelines, and an open SDK for researchers to conduct analysis or build their own custom applications using preferred programming languages. Supports GWAS, PRS, fine mapping, machine learning, and more. All results generated are linked back to the analysis tool for simple reproducibility.

Powerful Visual Exploration

Researchers can explore, build, and compare cohorts, based on omic or phenotypic characteristics with a cohort browser that easily scales to handle complex datasets.

Seamless Project-Based Collaboration

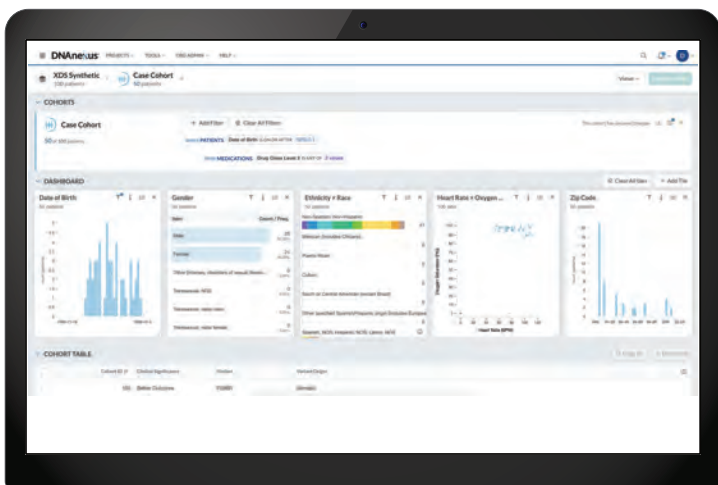
Data scientists, computational biologists, and clinical researchers can share data and analysis results, in a secure environment with role-based permissioning, and comprehensive access controls.

Scalability and Performance

DNAnexus Apollo is designed to model and scale to handle complex analyses of huge datasets, while ensuring optimal performance. Big data frameworks simplify scaling analyses to the data.

Security and Compliance

DNAnexus Apollo meets the industry's most stringent security and privacy requirements. The platform undergoes regular independent audits using the ISO27001, NIST 800 series frameworks, and is compliant with HIPAA, GDPR, EU 2017/746, CAP/CLIA regulations & more.



Analysis, Visualization & Results

Cohort Browser

Association Browser

Jupyter Notebook

Apps (GWAS etc)

Custom Visual App

Annotation and Context

Data Management

Data Model

Data Ingestion

Enterprise Control & Collaboration