Google Cloud

Uncover the next big discovery in genomic research with Genomic Data Processing

Accelerate research and drug development by running huge genomic datasets in Google Cloud Platform

When it comes to genomic research, we've barely scratched the surface – but already its impact is huge. In 2018, a third of new FDA-approved drugs relied on genomics data. The reason this number isn't higher is that researchers struggle to store and analyze the growing volume of genomic data in-house (global genomic data doubles every 7 months). The storage and computing power required are becoming too much for even the largest research organizations and life sciences companies to manage on-premises.

**1/3** drugs approved by the FDA in 2018 were genome-informed targeted oncology therapies [1]

26M+ people share their DNA with one of the four leading commercial ancestry firms [2]

$28B is how much the global genomics market is forecasted to reach by 2025 [3]

Find life-changing results faster and more securely

Manage your data
Ingest raw genomic data, manage output files, and control access to data

Run your workflows
Perform fast, cost-effective secondary analysis using popular workflow engines or platforms

Run your analysis
Perform tertiary analysis of genomic variants to gain insights

It cost an estimated $150 million to process the first genome sequence. Last year, the Broad Institute did it on Google Cloud Platform for a little over $5. The Google Cloud Platform provides more data, more space to store it, more power to process it, and better security to protect it.
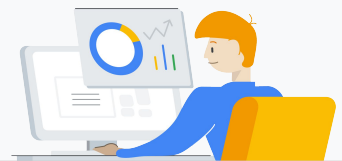
Top Life Sciences enterprises on a journey with Google Cloud

BrightInsight   bioz   SANOFI   Clear Labs   DNASTACK

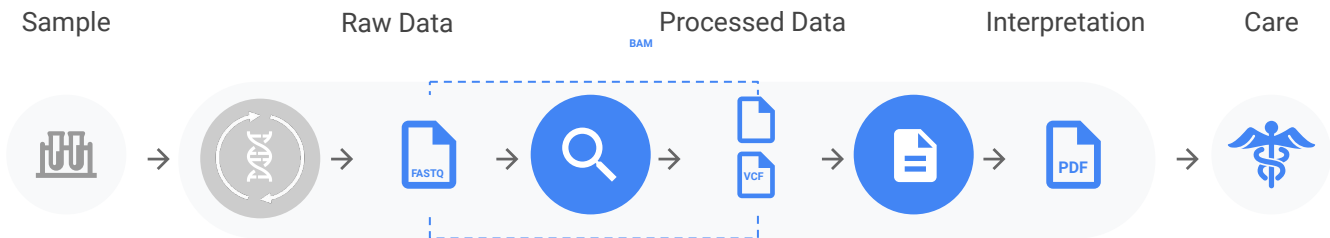color   RECURSION   TUTE GENOMICS   Stanford Center for Genomics and Personalized Medicine   INTEGRAGEN Clinical Genomics Experts
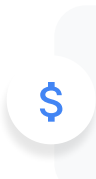
[1] FDA, Nov 2019
[2] MIT Technology Review, Feb 2019
[3] Ark Invest, January 2019

Google Cloud

Process genomic data and run secondary analyses at scale

Sample → Raw Data → Processed Data → Interpretation → Care

BAM

FASTQ → VCF → PDF

Why Google Cloud for Genomics Data Processing

$ Flexible pricing for affordable analysis.

< Growing ecosystem of integrated workflow engines plus platform and service partners.

🛡 Industry-leading security with strong data access controls.

⇄ Access to key industry datasets for joint data analysis.

BROAD INSTITUTE

Broad Institute accelerates genomic data analysis with Google Cloud

Google Cloud enables Broad Institute researchers to continually analyze data from tens of thousands of samples each year. With auto-scaling and better security features, researchers don't have to worry about delays or interruptions to their potentially life-saving work.

Analyzes human genomes 400% faster compared to on-site computing clusters

Reduces the cost of GATK Best Practices pipeline by 90% using GCP, from $45/genome to $5/genome

Processes more than 76,000 genomes, generating 24TB of data per day, and stores more than 36PB of data on GCP

> " The pace and volume of data produced for our research was increasing and we needed a place where it could be managed professionally and securely.

Niall Lennon
Senior Director, Translational Genomics for the Genomics Platform, Broad Institute

Ready to start your journey?

Contact our sales team and speak to a Google Cloud representative
cloud.google.com/life-sciences