IMAGINE ANSWERS.

Leading Discovery. Accelerating Hope.

Cypher Genomics places the bioinformatic sophistication provided by decades of expert research at your fingertips. The key challenge in genomics is no longer generating the genetic sequence, but rather processing and drawing inferences from the monumental amount of data. With our simple yet powerful software solution, you can convert genetic data into accurate, actionable information.

Vision

To provide world-class expertise and cutting edge technology, paving the way for precision medicine through genomic discovery for the benefit of humankind.

Mission

To provide state-of-the-field software that offers fast, accurate and reliable whole genome sequence data analysis and secure cloud-based storage, enabling individuals to achieve optimal health through genomic discovery, diagnosis and treatment.

Innovative Minds

Founded by four award-winning leaders in genomic medicine, the individuals behind the software are passionately pioneering the future of genomic discovery. Transforming clinical and translational genomics is the motivating factor that keeps Cypher Genomics ahead of the curve. Each member of the team brings heart, talent and a unique skillset to the table.

Nicholas J. Schork, Ph.D.

Co-Founder and Advisor

Dr. Schork has published over 350 articles in the area of quantitative biomedical science, specifically in population genetics and cancer genomics. He is the scientific founder of five companies and is a Tenured Professor in the Department of Molecular and Experimental Medicine at The Scripps Research Institute.

Ashley Van Zeeland, Ph.D.

Co-Founder and Chief Executive Officer

Dr. Van Zeeland provides the necessary and critical link between science and industry, having led cutting-edge research programs as well as the development and maintenance of a large portfolio of public-private partnerships aimed at the advancement of translational science.

Ali Torkamani, Ph.D.

Co-Founder and Chief Scientific Officer

An expert in genomic data analysis and interpretation with a strong focus in DNA sequence variation interpretation, Dr. Torkamani is responsible for the continued development of the Cypher solution. His proven ability to fuse computational biology with basic principles of genetics and chemistry enables the delivery of end-to-end genome interpretation solutions.

Eric J. Topol, M.D.

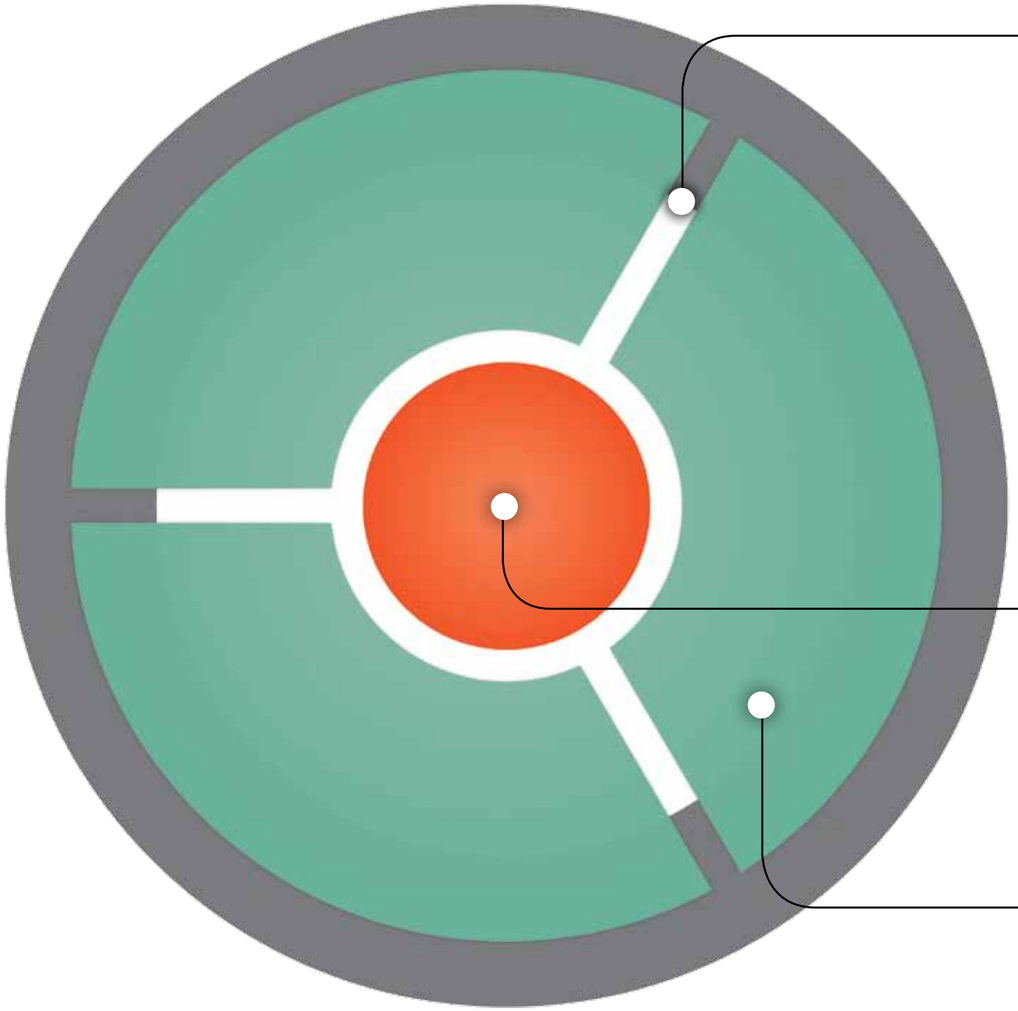
Co-Founder and Advisor

Dr. Topol provides the physician's perspective and real-world clinical experience, and is passionate about providing, individualized, precision medicine. He has earned two *Top 10 American Heart Association Research* awards for genomics of heart attack and a *TIME Magazine Breakthrough of the Year* award for genomics of coronary disease.

Adam Simpson, J.D.

Chief Business Officer

Providing commercial and partnering expertise, Mr. Simpson was previously Co-Founder and Chief Business Officer of Meritage Pharma before leading its sale to ViroPharma. Previously, he was the General Counsel of Verus Pharmaceuticals, where he led sale transactions to AstraZeneca and Shionogi and was also an attorney at Latham & Watkins, where he was involved in more than $1B of life science financings.



Infrastructure

Our intuitive cloud-based software provides fast and secure access to an extensive proprietary database of annotated genomic variants and tools to understand novel variants. Access robust proprietary algorithms and specialized applications to enable true whole genome interpretation, driving you to real solutions.

Security

We understand the paramount importance of securing your information. To ensure the safekeeping of your most valuable resource, we provide you with multiple levels of protection in the following areas:

- Network Security
- Physical Security
- Data Security
- Secure Data Access

Cypher Core

At the heart of the Cypher Genomics platform lies the Cypher Core, an intelligent interpretation database and extensive analysis pipeline. The Cypher Core offers you the most accurate, rapid and actionable whole genome annotation available:

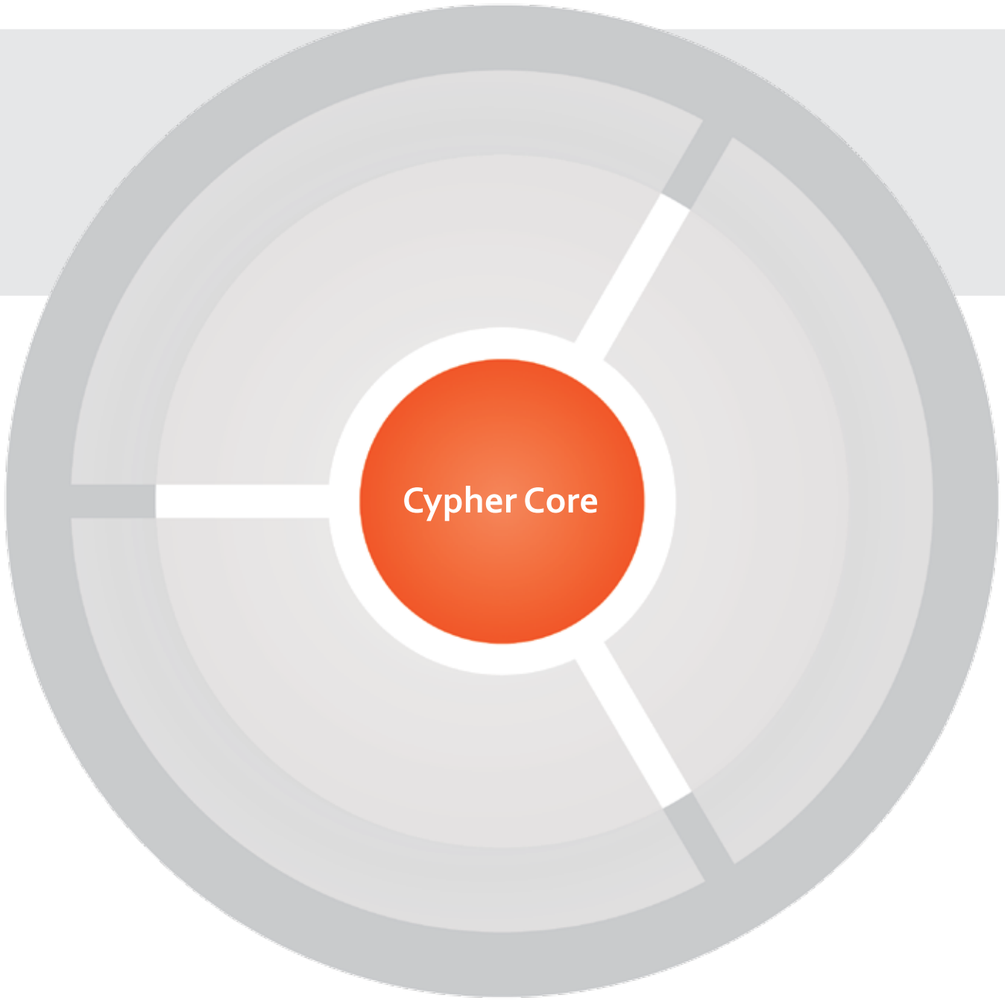
- True whole genome interpretation in less than 1 hour
- Proprietary database that learns with each genome analyzed
- Clinical-grade assessment of variant consequence

Applications

From disease identification, to drug development, to population analysis, we provide answers to a wide variety of medical questions, accelerating discovery and treatment.

- Disease Variant Identification
- Pharmacogenomics
- Population Association Analysis

proprietary database with over
100M unique genomic variants



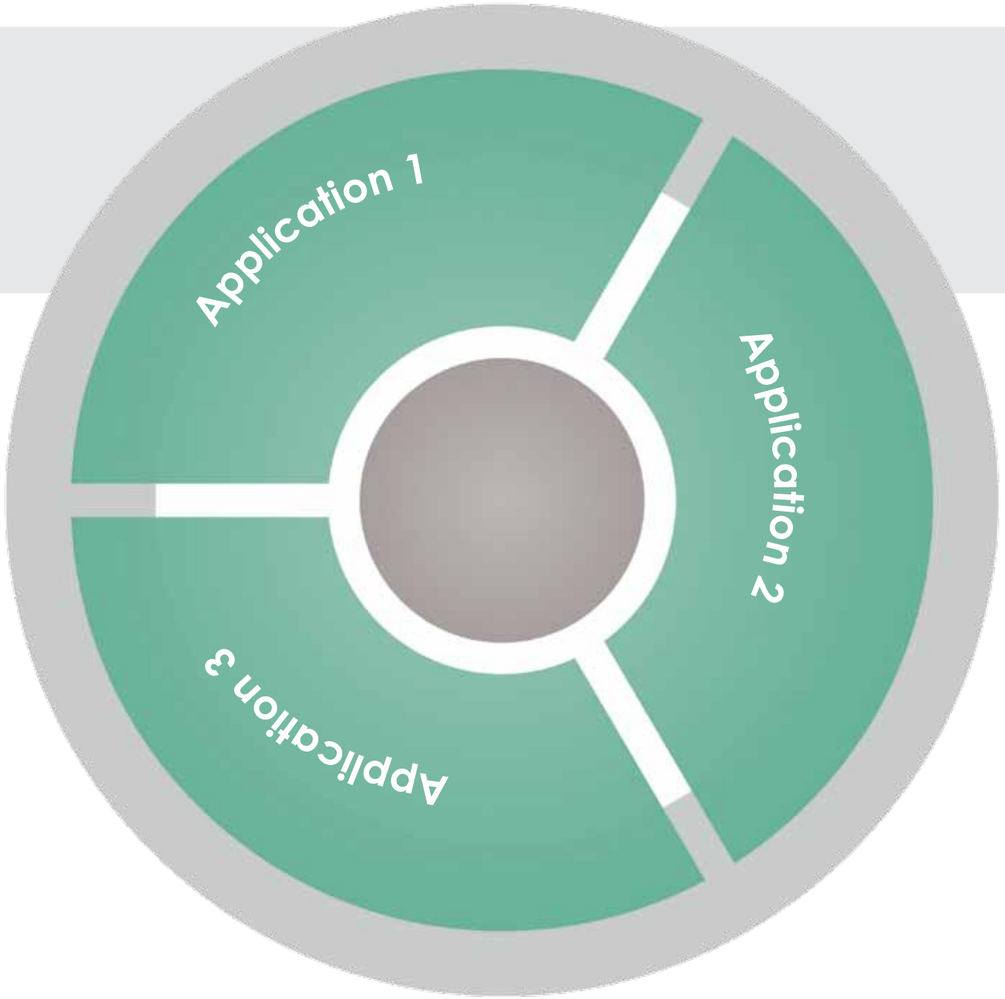
Cypher Core

Developed at a leading genomic medicine center, the Cypher Core is a proprietary interpretation database, which learns as more genomes are analyzed. With over 100M unique genomic variants already seen, and 90+ annotations provided for each of the relevant 3.2B base pairs in the genome, the Cypher Core provides the most accurate and actionable genomic information available.

True Whole Genome Interpretation

Perform whole genome interpretation in less than 1 hour without the need to purchase costly computational systems. Experience even faster turnaround times for exome or targeted sequencing. Achieve the greatest sensitivity and specificity for disease causative mutations and statistical associations provided by our comprehensive Cypher Core.

- All variants, whether they occur in protein-coding, splice site or regulatory elements, are assessed for likely functional impact using multiple *in silico* prediction algorithms.
- Known variants are annotated from a broad, curated database of all pertinent prior knowledge (e.g. associations from scientific literature, disease causative mutations, pharmacogenomic variants, etc.).
- All variants are placed in the context of biological processes, molecular function and gene networks to assess biological relevance.
- Multiple relevant annotations are refined at both the variant and gene level to classify molecular impact consistent with ACMG guidelines.



Applications

Accurately and rapidly gain invaluable insight into a wide range of medical maladies. From disease identification to drug development to population analysis, the Applications provide actionable answers for the advancement of disease discovery and treatment.

cutting edge **solutions** for **real-world** problems

1. Disease Variant Identification

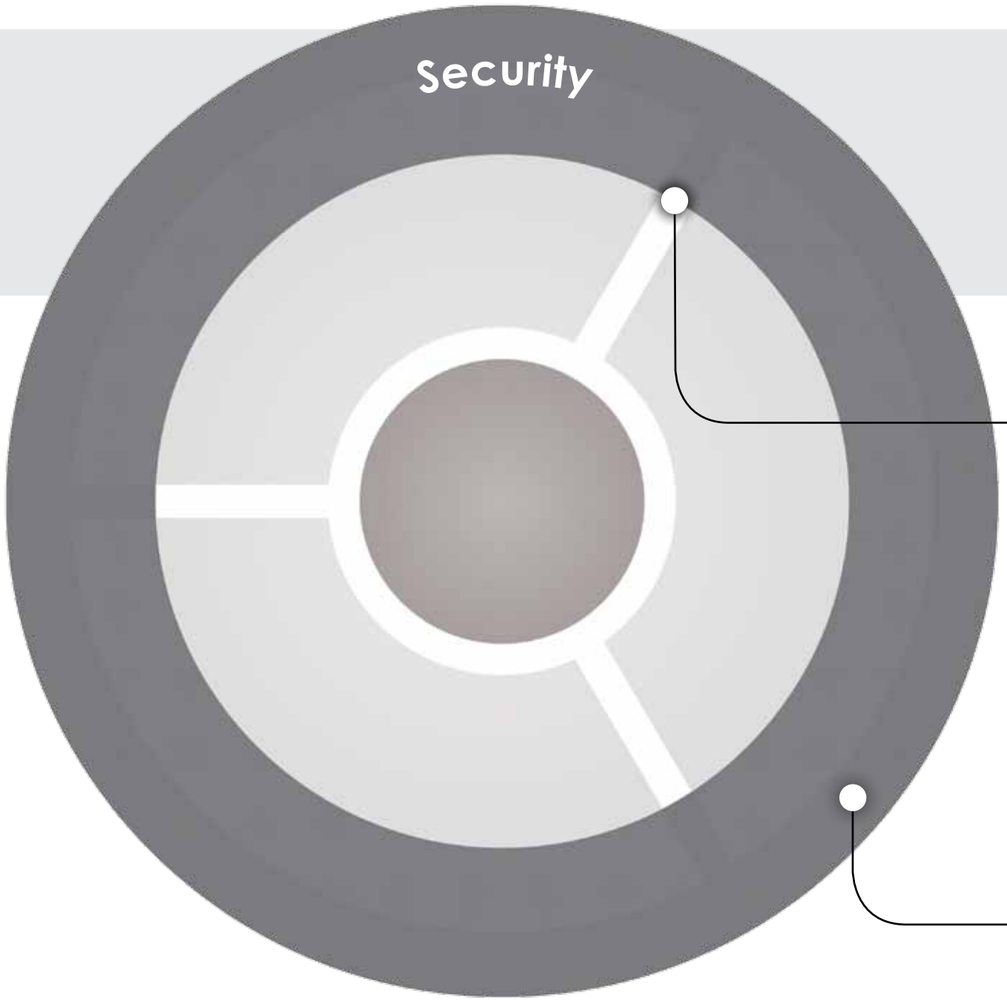
Proprietary algorithms built on systems biology principles and the Cypher Core can identify likely disease causative variants within minutes, avoiding numerous and costly diagnostic tests. Flexible tools allow users to query the genome for a multitude of conditions, from neurodevelopmental disorders to oncology.

2. Pharmacogenomics

Genomics plays a role at all stages of drug development from target identification to post-marketing surveillance. Our comprehensive analytics suite identifies both genetic drivers of therapy responses and rare adverse events, enabling more efficient clinical trials and companion diagnostic development.

3. Population Association Analysis

Large genome-wide association studies using sequence data are not trivial, particularly when searching outside the bounds of protein-coding regions. Our proprietary tools and unique control cohorts provide greater statistical power to detect true associations and provide insight into disease biology or population-specific variation.



Security

Your data security is our highest priority. Through secure architecture, distributed encryption, rigorous maintenance and around-the-clock onsite monitoring, we provide maximum security while granting you effortless access.

20+ points of security

protect your data

Secure Data Access

Access the Cypher Core and Applications through controlled APIs for trusted partners or through our secure user interface. To ensure maximum security, authentication and authorization schemes, secure communication protocols are required throughout the application.

Physical Security

Data center access is limited to authorized personnel and enforced with biometric scans, 24/7 onsite security staff and security camera monitoring. Private and personal health information is stored on dedicated physical servers, not in a public cloud.

Network Security

Our complete cloud solution is behind a firewall and up-to-date with the latest anti-virus and threat detection software. Our system is scanned regularly for vulnerabilities, providing the first line of defense for data protection. Intrusion prevention and detection systems provide constant monitoring and notifications to protect your data.

Data Security

Our base architecture is designed to control sensitive data access and maintain HIPAA compliance. Distributed encryption and virtual tokens are used to protect any required sensitive data, and isolated data stores reduce the risk of unauthorized patient data access.

Contact us to begin

Cypher Genomics

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