



Accelerating Human Discovery

Sapient is an end-to-end biomarker discovery partner to pharmaceutical and biotechnology sponsors.

Using our transformative, **three-pronged platform**, we make discoveries with unprecedented speed and at population scale – then make them actionable to optimize drug pipelines and advance clinical development.

Human Biology Database to validate and mine for discoveries

Sapient has built an expansive proprietary human data repository from analyses of hundreds of thousands of biosamples from individuals across the globe. We use this data to derive biological insights and to validate preclinical and clinical discoveries.

Comprised of diverse disease cohorts, including but not limited to:

- Autoimmune / Inflammation
- Cancer
- Cardiovascular
- Hematologic
- Infection
- Infectious
- Liver/GI/Digestive
- Lung
- Metabolic
- Maternal-fetal
- Musculoskeletal
- Neurodegenerative
- Ophthalmologic
- Psychiatric
- Rare
- Renal



Data, including in longitudinal datasets, from **>100,000s of human biosamples**



>10-30 years of follow-up
across individuals, with data on:

- Adjudicated clinical outcomes
- Demographic features
- Lifestyle factors
- Drug response
- Human genetics, microbiome, etc.



Rapidly growing database
with new biosamples added every month

WHY SMALL MOLECULES?

Small molecules come from local tissues but are transported into central circulation where they can be non-invasively captured – unlike DNA or proteins that are only captured if actively extruded from cells.

Circulating chemistry is key to understanding the non-genetic landscape of disease, providing functional readouts of human exposures stemming from diet, toxicants, internal organs, the microbiome, medications, and the environment. Sapient focuses on small molecules because of their immense power to predict phenotype, providing information on active biological processes across systems for early detection of disease mechanisms.



High-Throughput Profiling with next-gen analytical technologies

Sapient's proprietary rapid LC-MS (rLC-MS) systems allow us to take a biological sample like blood and, in that sample, capture and measure thousands of molecules.



STATISTICAL POWER FOR UNBIASED ANALYSIS

We focus on answering key biological questions – uncovering new pathways associated with disease mechanisms, disease progression, patient response, and more – using population-level data to identify specific, sensitive biomarkers with high confidence.



>11,000 circulating factors
assayed per biosample

Profiles broad, complex chemistries
Small molecule biomarkers (<2000 daltons) including polar metabolites, polar lipids, nonpolar lipids, and bioactive lipids

Untargeted analytical approach
can capture 1000s of unmapped factors

Diverse sample types
including plasma / serum, tissue, CSF, urine, breast milk, dried blood spots, and many others (media, organoids, etc.)

Small sample volume requirements
as low as 150 μ L liquid / 100 mg tissue

<1 minute
analytical cycle time

Capacity to analyze
>1,000s of biosamples per day

Real-time QC
to mitigate matrix effects



Integration of high dimensional data

- Preclinical models
- Human biology
- Genomics
- Clinical outcomes



Proprietary peak extraction pipeline

- Scalable computing clusters
- Machine learning to remove up to 90% of false peaks without reducing true signals
- Image processing for parallel analysis

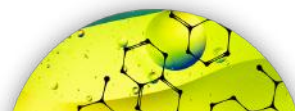


Compound identification

- Molecular networking analysis
- 4D separation using retention time, CCS, MS1, and MS2 values
- Extensive capabilities for structural elucidation

Biocomputational Prioritization with advanced computational learning

Our expert data science team has developed software and machine learning algorithms to rapidly analyze the vast data generated by rLC-MS to identify key biomarkers of interest.



MINING FOR DISCOVERIES

We don't have to start with samples. Sapient can also begin by mining our database for key insights, such as searching for potential new targets in a disease area of interest.

Rapid Translation from Discovery to Clinical Impact

Sapient delivers discoveries to answer key drug development questions critical to success, through rapid identification and validation of markers of the:

Right Disease

- Disease mechanisms
- Target elucidation
- Early disease detection
- Disease progression

Right Patient

- Patient stratification
- Safety profiling
- Companion diagnostics
- Clinical trial enrichment

Right Pharmacology

- Dosing strategies
- Timing of treatments
- Target engagement
- PK/PD

The output of our analysis includes a formal presentation which interprets the data in the context of the biological question being asked, distilling the immense information revealed to pinpoint specific, actionable findings.

We also provide the expertise to translate key biomarkers into diagnostic CLIA assays and other clinical applications.

COMPLETE DATA TRANSPARENCY

In addition to processed and computational datasets, Sapient provides all raw data and m/z files to sponsors for full transparency.

Your Partner to Discover More and Develop Faster

We are here to help accelerate and optimize your drug pipelines to maximize probability of approvals, elucidating the pathways involved in disease, drug delivery, and the specific individuals that will respond to a particular intervention.



Team has 10+ years of experience in advanced discovery



Headquartered in San Diego, CA



CLIA certified laboratory



>55 team members - 70%+ hold MD/PhDs



Ready to discover more?

Schedule a time to discuss your programs with our scientists.

Visit: sapient.bio | **Email:** discover@sapient.bio | **Call:** 858.633.3497