SAPIENT

Discovery metabolomics and lipidomics at unmatched scale.

Sapient is a biomarker discovery organization providing **bespoke discovery metabolomics and lipidomics services to accelerate drug development programs.**

Leveraging high throughput mass spectrometry, biocomputational analysis, and large-scale human biology datasets, we can **rapidly identify, validate, and translate dynamic small molecule biomarkers** of health, disease, and drug response.

1

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 small molecules.

>15,000 small molecule biomarkers
assayed per biosample in nontargeted method

Profiles broad, complex chemistries
including polar metabolites, polar lipids, nonpolar lipids, and bioactive lipids

Up to 1,400 metabolites identified
in large-scale studies and >13K reference standards for putative structural insights for unknown molecules

Diverse sample types
including plasma / serum, tissue, CSF, urine, breast milk, dried blood spots, and many others

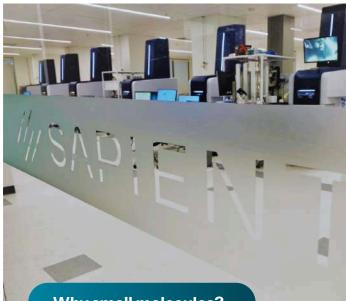**<1 minute**
analytical cycle time

Capacity to analyze
>5,000 biosamples per day

Why small molecules?

Circulating chemistry is key to understanding the non-genetic factors that influence disease. Dynamic organ physiology, inter-organ communication, host-disease interactions, and host-environment exposures are encoded in small molecule biomarkers.

Sapient focuses on small molecules because they have the potential to provide an unprecedented view into host and disease factors that modulate health status, disease pathobiology, and drug response across individuals.

2 Biocomputational Analysis
to rapidly derive actionable insights

Our expert data science team **applies AI and machine learning approaches** to analyze and integrate the large-scale datasets we generate to identify key small molecule biomarkers of interest.

Multi-scale analyses & models
distilling tens of thousands of small molecule measures down to pathways and biomarkers

Mapping biomarker associations
across time, diseases, treatments, and more

BIOMARKER INSIGHTS DASHBOARD

3 DynamiQ™ Insights Engine
to validate biomarker discoveries

Sapient has built an expansive in-house biorepository of serial samples in which we have collected metabolite, lipid, protein, cytokine, and other omics measures – offering a deeply phenotyped database for longitudinal analysis.

We use this data to confirm your biomarker findings in independent populations and further explore associations.

Multi-omics measures integrated from
62,000+ human biosamples

4 – 10 years of follow-up
across individuals, with real-world data on:

- Adjudicated clinical outcomes
- Demographic features
- Lifestyle factors
- Response to intervention
- Human genetics, microbiome, etc.

68M+ phenotypic data points
linked to spectral data from biosamples

Rapidly growing database
with data for 60+ diseases and disorders and new biosamples added every month

DynamiQ™
INSIGHTS ENGINE

Sapient's multi-omics database and biorepository

Enabling guided analyses for:

- **Target identification**
- **Biomarker discovery**
- **Biomarker validation**
- **Patient stratification**
- **PK / PD metrics**
- **Predictive response**
- **Companion diagnostics**

Ready to discover more?
Schedule a time to discuss your programs.

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