SAPIENT

BROADER chemical discovery for a new **DEPTH** of insight into human biology and drug response

There are tens of thousands of unknown molecules circulating in human blood – thousands of which could represent robust biomarkers.

Sapient's next-generation rapid liquid chromatography-mass spectrometry (rLC-MS) systems and follow-on technology pipeline enable rapid, comprehensive profiling of both known and unknown small molecule chemistries.

CHEMICAL BREADTH *Examples of chemistries captured, not an exhaustive list*

CHEMICAL DEPTH

NONTARGETED, HIGH-THROUGHPUT SCREENING

rLC-MS HESI/APCI
Bruker timsTOF Pro 2

POLAR METABOLITES	POLAR LIPIDS	NONPOLAR LIPIDS
Amino acids	Glycerophospholipids	Hormones (APCI)
Central carbon compounds	Short chain fatty acids	Diglycerols
Nucleic acids	Endocannabinoids	Triglycerols
Nucleotides	Acylcarnitines	Ceramides
Organic amines	Bile acids	Sterol esters
Neurotransmitters	Oxylipins	Cardiolipins
	Eicosanoids	FAHFAs

Utilizes a custom mixed-mode column coupled with multiple step gradient elutions to capture broad chemistries in <1 minute analytical cycle time.

CONFIRMATION OF KEY SIGNALS VIA TARGETED METHODS

LC-MS
Thermo QE Orbitrap™

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Central carbon compounds	Bile acids	Triglycerols
Nucleic acids	Oxylipins	Cardiolipins
Nucleotides	Eicosanoids	FAHFAs

Provides ultra high resolution and mass accuracy with quantitative signals.

11K+
small molecule biomarkers assayed per biosample via rLC-MS

GC-MS
Agilent GC-MS

POLAR LIPIDS	NONPOLAR LIPIDS
Short chain fatty acids	Sterol esters

Offers ultra low mass detection range with detection of volatile compounds and those not suitable for ESI.

Sapient focuses on chemistries with molecular weight of
<2,000 daltons

LC-QQQ
Agilent Ultivo™

POLAR LIPIDS
Endocannabinoids

Enables MRM quantitation with high sensitivity and very wide linear range.

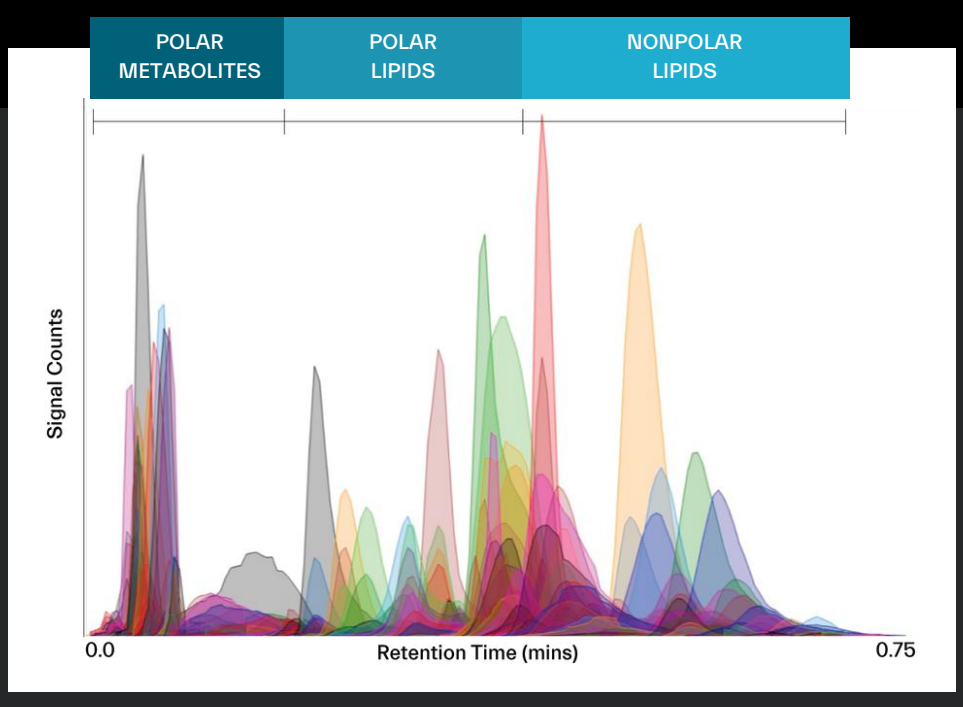
Sapient can identify
500-1,000
molecules from initial rLC-MS analysis using our proprietary metabolite standards library

CLINICAL ASSAY DEVELOPMENT

LC-QQQ also provides absolute quantitation to translate specific metabolites into clinical assays for use in GLP or CLIA settings.

Sapient can perform
structural elucidation
of key unknown molecules, including isolation and synthesis.

EXAMPLE OF rLC-MS DATA OUTPUT



Explore biomarkers more broadly and translate discoveries most efficiently

With high-powered methods to identify and translate novel small molecule biomarkers at speed, scale, and with high specificity, Sapient is the single partner you can rely on for your complete biomarker development workflow – from discovery to diagnostic.

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