

# Achieve Discovery and Biomarker Analysis Simultaneously

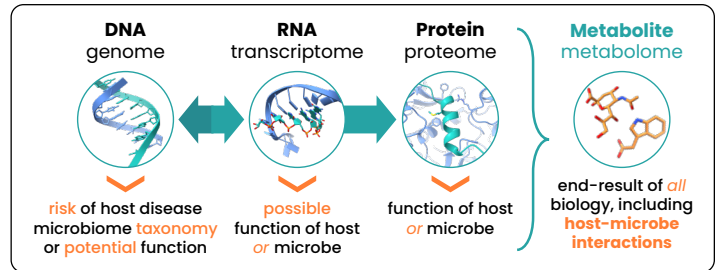
## with Semi-Targeted Metabolomics



Access biological function by profiling metabolites: don't settle for possible

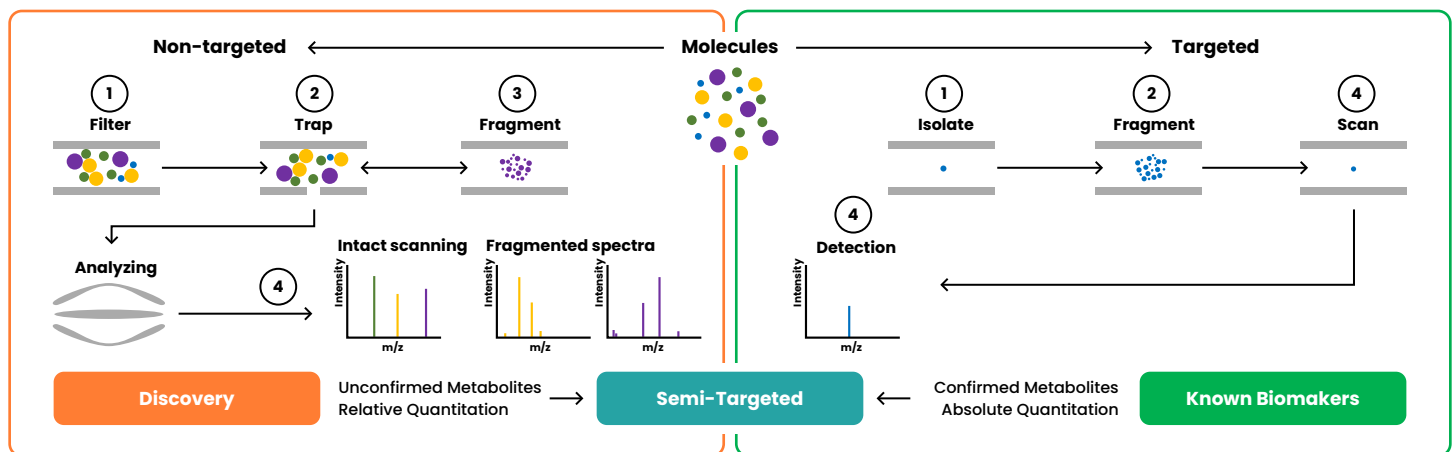
To identify biological mechanisms of action or elucidate biomarkers, you can't afford to settle for risk scores or potential functionality. You need a technology that integrates genetics, lifestyle, and environment in any sample type, while offering the ability to make discoveries and measure quantitative biomarkers.

Across any application area or disease indication, semi-targeted metabolomics and multiomic data integration solutions from Arome Sciences will provide you with the data you need to bring your product to market.



### Semi-targeted metabolomics combines discovery and biomarker capabilities into one powerful technology for multiomic integration and clinical development

When designing a metabolomics study, scientists typically decide between platforms that enable discovery and those that quantitatively measure biomarkers. Arome has pioneered a unique semi-targeted approach, offering both discovery and biomarker analysis in the same experiment.



### Let Arome help you turn specimens into insights

Up to 1250 microbiome and human-related metabolites (Level 1)  
Up to 6500 IDs (Level 2)

Biological actionable insights

Transparency

Biomarker discovery

Drug & consumer product development and clinical biomarkers

**State-of-the-art metabolomics**  
Biomarker elucidation, analysis, & microbiome multiomics integration bioinformatics



Bajorek (2022) *Front Pediatr.* 9:795970.

Absolute quantitation of primary HMOs in infant stool demonstrated that their complete metabolism only occurs in the presence of an administered probiotic.



Li (2023) *Front Med.* 10:1165980.

Metabolites correlated strongly with microbiome sequencing and clinical outcomes to explain how prebiotic skincare products improved dry skin.



## Discover and validate metabolomic biomarkers with a customizable data and analysis package that meets your needs and budget

We recognize that every study is different. Choose the metabolite coverage, specimen type, study design, and bioinformatics analysis you need to succeed. Costs are approximate, and the offerings list is not exhaustive. Metabolite annotations include:

- Known molecules (Level 1; mass, retention time, MS/MS): 1250 compound authentic standard library
- Known molecules (Level 2; mass, MS/MS match to spectral library) typically IDs  $\leq 10\%$  of the 1000s of detected features
- Known and novel molecules (Level 3 & 4; propagated libraries and in silico prediction of MS/MS) typically IDs  $\leq 30\%$  and  $\leq 80\%$  of features with proposed structures and chemical class, respectively



Discuss a study design

|   | Explorer                 | Explorer Plus           | Pathfinder                         | Cartographer                      |
|---|--------------------------|-------------------------|------------------------------------|-----------------------------------|
| <b>MS Methods</b>   |                          |                         |                                    |                                   |
| LC-MS   | 1 (Positive or Negative) | 1 (Positive & Negative) | 2 (Positive & Negative)            | 3 (Positive & Negative)           |
| GC-MS   |                          | 1 (Derivatized)         | 1 (Derivatized or Non-Derivatized) | 2 (Derivatized & Non-Derivatized) |
| <b>Metabolite Classes</b>   |                          |                         |                                    |                                   |
| Steroids & Bile Acids<br>Nucleic Acids<br>Vitamins & Cofactors<br>Xenobiotics<br>Polar Lipids<br>Peptides & Analogues | ✓                        | ✓                       | ✓                                  | ✓                                 |
| Fatty Acids<br>Amino Acids & Amines<br>Small Saccharides & Alcohols<br>Short-Chain Fatty Acids                        |                          | ✓                       | ✓                                  | ✓                                 |
| Larger Lipids<br>Polysaccharides & Polyalcohols<br>Energetics   |                          |                         | ✓                                  | ✓                                 |
| Volatiles<br>Terpenes & Terpenoids<br>Esters<br>Phenols, Benzyls, & Naphthalenes<br>Thiols                            |                          |                         |                                    | ✓                                 |
| <b>Sample Types</b>   |                          |                         |                                    |                                   |
| Whole Blood<br>Serum/Plasma<br>Feces<br>Skin<br>Urine   | ✓                        | ✓                       | ✓                                  | ✓                                 |
| Cell Culture  |                          |                         | ✓                                  | ✓                                 |
| Any MS-Compatible   |                          |                         |                                    | ✓                                 |
| <b>Study Design, Data, &amp; Interpretation</b>   |                          |                         |                                    |                                   |
| Pilot Study   |                          |                         | ✓                                  | ✓                                 |
| Raw Data<br>Feature Table with Annotations<br>Molecular Network PCoA<br>Publication-Ready Methods                     | ✓                        | ✓                       | ✓                                  | ✓                                 |
| Statistical Analysis (e.g., Supervised Learning & Multivariate)   |                          |                         | ✓                                  | ✓                                 |
| In Silico Metabolite Prediction   |                          |                         |                                    | ✓                                 |
| Pathway Analysis  |                          |                         |                                    | ✓                                 |
| Additional Bioinformatics   |                          |                         | ✓                                  | ✓                                 |
| Multomics Integration Analysis  |                          |                         | ✓                                  | ✓                                 |
| <b>Approximate Cost (per Sample)</b>  | <b>\$200-\$300</b>       | <b>\$500</b>            | <b>\$600</b>                       | <b>\$800</b>                      |

