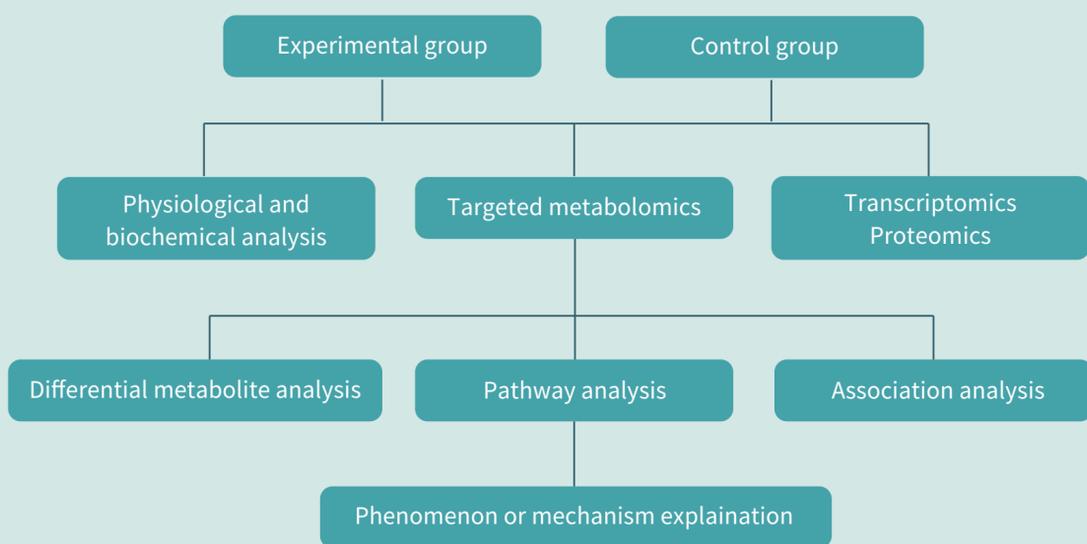


Plant Metabolomics Solutions



Plant metabolomics is the study of plants to analyze primary metabolites, such as organic acids, amino acids, nucleotide acids, carbohydrates, lipid molecules, etc. that are essential for plant growth, development and life activities, as well as secondary metabolites, such as flavonoids, alkaloids, phenols, steroids, etc. that are closely related to plant stress resistance. Creative Proteomics targeted plant metabolomics solutions enable the qualitative and quantitative analysis of primary and secondary metabolite molecules in plant samples.

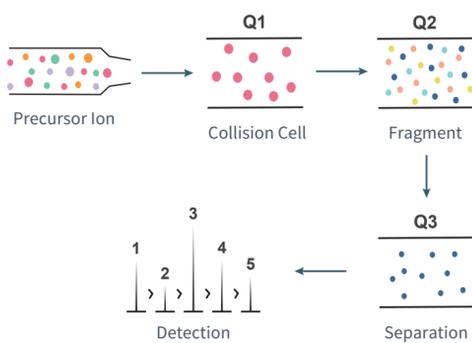
Strategies for plant targeted metabolomic research



Process of plant targeted metabolomics

Mass spectrometry scanning mode

Multi Reaction Monitor (MRM) scanning mode is used. A specific parent ion is selected for fragmentation and a specific daughter ion is selected for scanning with high accuracy.



Quality control of mixed standards

The stability of the system is monitored using various polarities standards. Before sample injection, three consecutive injections of mixed standard QC are inserted, then retention time and peak area of each standard are recorded. After the completion of quality control, samples can be injected formally.

Quality control of mixed samples

For every 10 samples, they are interspersed with 1 QC (samples are taken in equal volumes of the mix), which are used to monitor the overall stability of the injection system.

Professional data analysis

After data acquisition, it is analyzed using metabolites identification and quantification software. In addition, further statistics analysis (T-test, One-way ANOVA, etc.) are available upon request.

Applications of plant targeted metabolomics

<p>Abiotic Environmental Relationships</p> <p>Unsuitable environments can induce stress conditions, including extreme temperatures, salinity, drought, etc., to which plants will perceive and respond accordingly for survival.</p>	<p>Plant-Microbe Interactions</p> <p>When pathogenic bacteria infect plants, they frequently develop novel immune responses and changes in metabolic profiles are also revealed. Plant metabolome can analyze changes in plants and accelerate the study of plant-microbe interactions.</p>	<p>Phenotype Identification</p> <p>Most genetically modified or knocked-out individuals lack obvious phenotypic changes and can be distinguished by metabolite contents.</p>	<p>Metabolic Pathways and Functional Genomics</p> <p>To clarify the series of substrates, intermediates, end products, and key enzymes involved in the metabolic pathway, as well as to elucidate the regulatory mechanisms and loci in the pathway, thus integrating, generalizing, and classifying changes in upstream genes.</p>	<p>Human Health Research</p> <p>Research related to the chemical structure, synthetic pathway, bio-efficacy evaluation, and potential targets of action with plant active ingredients.</p>
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