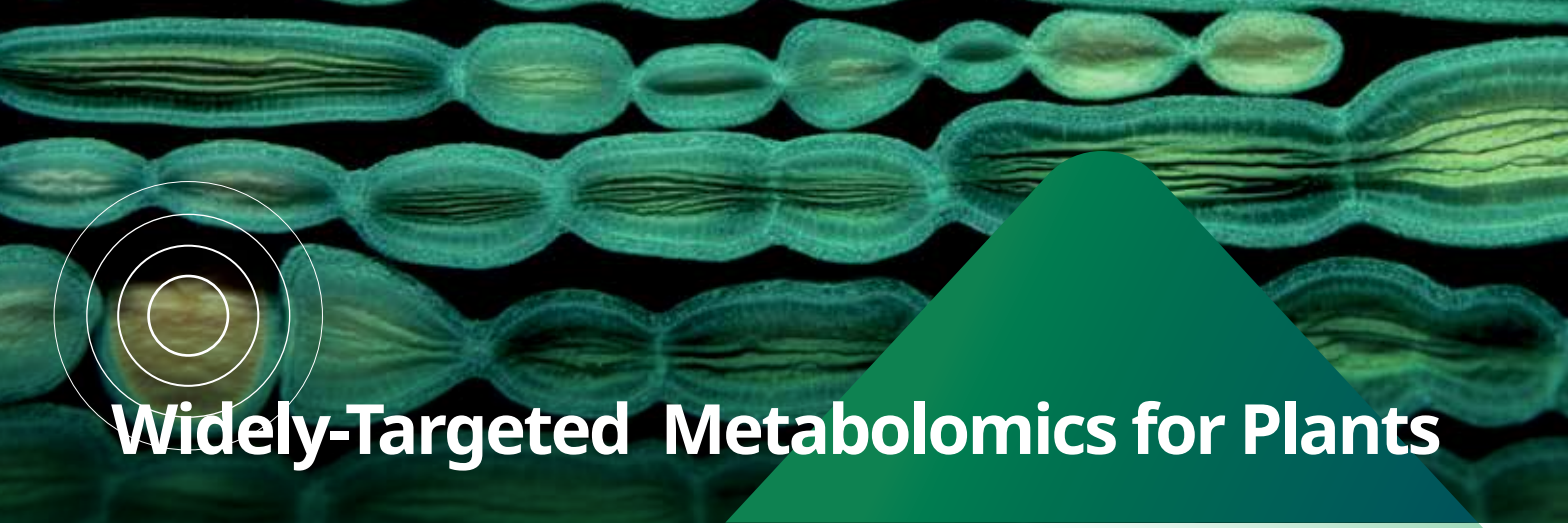


Widely-Targeted Metabolomics for Plants

Widely-Targeted Metabolomics is an innovative metabolomics method that combines the benefits of untargeted metabolomics and targeted metabolomics to achieve high-throughput identification and precise quantitation of large number of metabolites. This methodology is especially useful in plant metabolism research where the number of metabolites far exceeds those in animals. At Metwarebio, our Widely-Targeted Metabolomics approach stands out from many others with features such as:

Large Curated Database

Over **30,000** purified chemical standards from over **1000** plant species.

Precise Quantitation

Using the **QQQ** gold standard detection mode (MRM) and 10 rigorous QC indicators

Accurate Identification

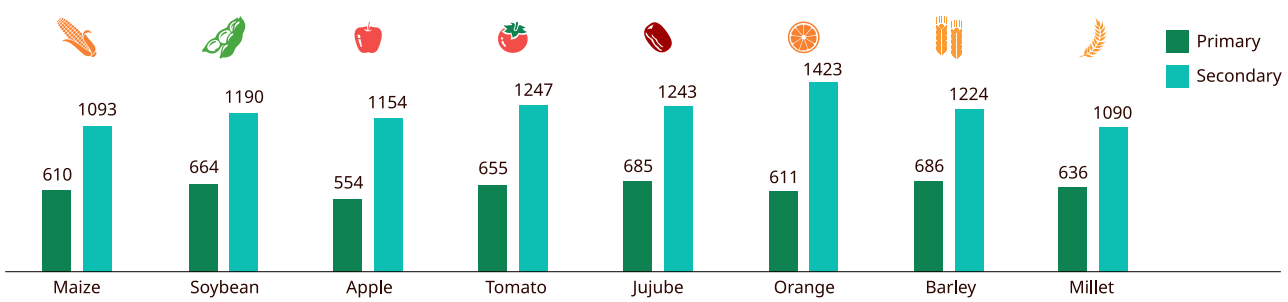
Combining AB SCIEX Q-TOF 6600 ultra-high resolution mass spectrum with our in-house curated database to achieve accurate metabolite identification.

High Quality Data

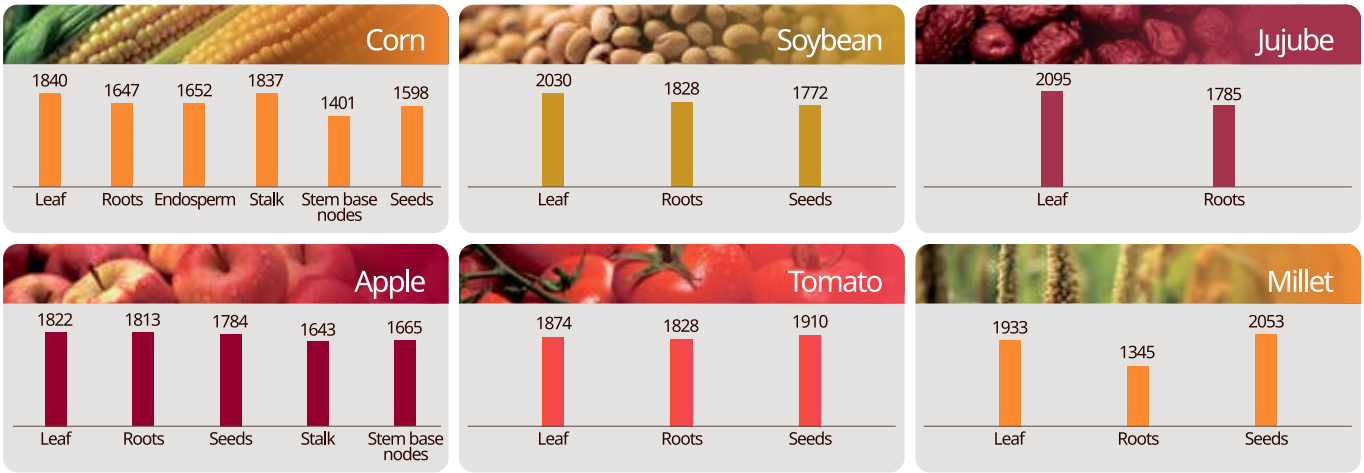
Results of our services have been cited in over **500** publications.

In-house Plant Metabolites Database

Types	Number	Representative compounds
Flavonoids	3700+	Rutin, Phloretin, Phelligrin A, Hesperetin, Pelargonidin-3-O-glucoside...
Phenolic acids	2100+	Chlorogenic acid, Momordicoside A, Oleuropein, Salvianolic acid A...
Alkaloids	7000+	α-Solanine, Verticine, Arecoline, DIMBOA, Lycorenine...
Terpenoids	8000+	Artemisinine, Genipin, Cucurbitacin B, Ecliptasaponin A...
Quinones	700+	Emodin, Obtusin, Lapachone, Shikonin, Tectograndone...
Steroid	1300+	Asparagoside C, Polyphyllin I, Tigogenin, Digitonin, Oleandrin...
Tannins	240+	Ellagic acid, Gemin D, Casuariin, Punicalin, Chebulagic acid...
Ligans	1000+	Honokiol, Syringaresinol, Arctigenin, Pinoresinol, Sesamin...
Glucosinolates	150+	Sulforaphane, Gluconasturtiin, Sinalbin, Sinigrin...
Coumarins	800+	Umbelliprenin, Psoralen, Glycycoumarin, Xanthotoxol, Scopolin...
Organic acids	270+	Succinic acid, Malic acid, Citric Acid, Quinic Acid, Shikimic acid...
Vitamins	50+	Vitamin C, Vitamin B2, Vitamin A1, Vitamin U, Nicotinic acid...
Amino acids and derivatives	540+	Tryptophan, Theanine, Beauvericin, Dencichin, γ-Glu-Cys...
Nucleotides and derivatives	120+	Adenine, Cytosine, Thymine, Inosine, Adenosine 5'-monophosphate...
Saccharides and Alcohols	340+	Glucose, Sucrose, Fucose, Xylitol, Maltose, Raffinose...
Lipids	500+	Linolenic acid, 4-Hydroxysphinganine, Lauric acid, Myristic Acid...
Others	3200+	Aflatoxin B1, Secoxyloganin, Kavain, Terreic acid, Mansonone E...
Total		**30000+**

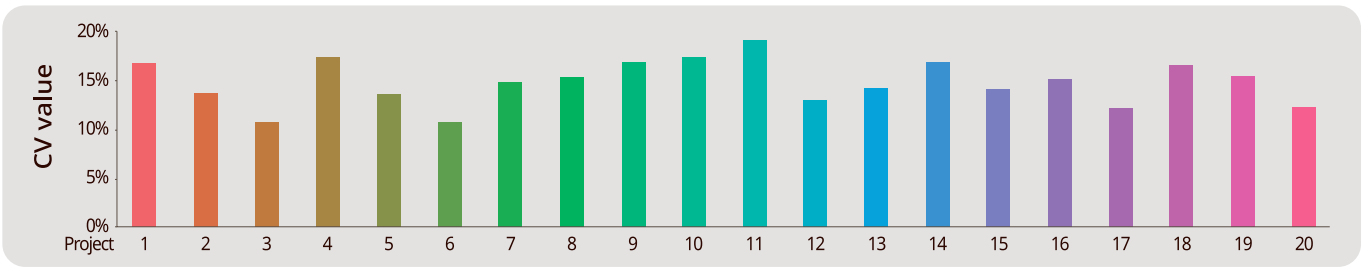


Average number of metabolites detected in different species.



Number of metabolites detected across various tissues.

High Stability



Highly stable detection for the widely-targeted metabolic analysis.

Selected Publications

Year	Journal	Title	Species
2023	Ecotoxicology and Environmental Safety	Deciphering the toxicity mechanism of haloquinolines on Chlorella pyrenoidosa using QSAR and metabolomics approaches	Chlorella
2023	Food Research International	Widely targeted metabolomic analysis revealed the effects of alkaline stress on nonvolatile and volatile metabolites in broomcorn millet grains	Millet
2023	Food Chemistry	Impact of low temperature on the chemical profile of sweet corn kernels during post-harvest storage	Maize
2022	Foods	Comparative Analysis of Fruit Metabolome Using Widely Targeted Metabolomics Reveals Nutritional Characteristics of Different Rosa roxburghii Genotypes	Rosa Roxburghii
2022	Food Chemistry	Comparative analysis of rice reveals insights into the mechanism of colored rice via widely targeted metabolomics	Rice
2022	Postharvest Biology and Technology	Widely targeted metabolomics analysis reveals the effect of exogenous auxin on postharvest resistance to Botrytis cinerea in kiwifruit (Actinidia chinensis L.)	Kiwi Fruit
2022	Food Research International	Comparative metabolomics of flavonoids in twenty vegetables reveal their nutritional diversity and potential health benefits	Vegetables
2021	Food Chemistry	Widely targeted metabolomics analysis reveals the effect of fermentation on the chemical composition of bee pollen	Honey
2021	LWT - Food Science and Technology	Widely targeted metabolomics characterizes the dynamic changes of chemical profile in postharvest peanut sprouts grown under the dark and light conditions	Peanut

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