LC-MS/MS Services

At Avance Biosciences, our liquid chromatography-mass spectrometry (LC-MS) services provide highly sensitive and accurate analytical solutions for drug development, biomarker discovery, and biologics characterization. Leveraging state-of-the-art SCIEX Triple Quad™ and TripleTOF™ LC-MS platforms, we offer quantitative and qualitative analysis of small molecules, peptides, proteins, and metabolites to support pharmaceutical and biopharmaceutical research and development.

Our Expertise

Our team of experienced scientists specializes in method development, validation, and high-throughput LC-MS analysis, delivering precise, reproducible data for PK/PD, metabolite identification, impurity profiling, and stability studies. We also support CMC activities including drug substance characterization, excipient and residual solvent quantification, and rigorous release testing, with unmatched sensitivity, specificity, and regulatory compliance across small molecules, biologics, and complex therapeutics.

Small and Large Molecule Analysis

Our comprehensive MS services are powered by the SCIEX QTRAP 6500+ and TripleTOF 6600 systems. This versatile combination supports a wide range of pharmaceutical applications, from precise small molecule quantification and biomarker discovery to detailed characterization of complex biotherapeutics, delivering the sensitivity, accuracy, and confidence your drug development programs demand.

AVANCE
B I O S C I E N C E S

Selected LC-MS/MS Services

Application	Description
Bioanalysis of Small Molecules (PK/PD Studies)	We perform sensitive and accurate quantification of small-molecule drugs in plasma, urine, and tissue samples to support pharmacokinetic/pharmacodynamic (PK/PD), toxicokinetic, and bioavailability studies throughout all phases of drug development, from preclinical testing to clinical trials.
Metabolite Profiling & Identification (MetID)	Our services support comprehensive metabolite profiling through both untargeted identification and targeted quantification, helping drug developers understand metabolic pathways, characterize major and minor metabolites, and assess metabolic stability in ADME and human liver microsome studies.
Targeted Proteomics (Biomarker Verification)	We offer targeted protein quantification in biological matrices to support biomarker validation, mechanism-of-action studies, and pathway-specific protein panel analysis critical for drug efficacy studies, patient stratification, and clinical research in precision medicine.
Biotherapeutics & Peptide Quantification	Our mass spec platform enables detailed quantification and structural analysis of therapeutic peptides and proteins, including monoclonal antibodies and ADCs. We support applications such as peptide mapping, PTM analysis, degradation profiling, and biosimilarity assessments.
Lipidomics & Metabolomics	We provide both untargeted and targeted analyses of lipids and metabolites to support drug-induced metabolic pathway studies, biomarker discovery, toxicometabolomics, and systems biology applications in preclinical and clinical research.
Toxicology / Reactive Intermediate Screening	We detect and characterize reactive drug metabolites and covalent adducts to identify safety liabilities early in development. These assays are essential for understanding drug reactivity, bioactivation pathways, and potential toxicological risk.