

Applied Biosystems/MDS SCIEX QSTAR Elite Mass Spectrometer



The QSTAR Elite is the latest model of hybrid quadrupole/time-of-flight (Q-TOF) tandem mass spectrometer manufactured by AB/MDS SCIEX. Compared to previous models, the Elite has better resolution and mass accuracy, higher sensitivity, more stable system performance, and faster and more intelligent MS/MS scan, as well as various other functional improvements. A Proxeon nanoHPLC with integrated autosampler is interfaced with the Elite. The nanoHPLC-MS system can be used for the analysis of complex mixtures.

The following services are provided using this MS platform:

1. Quantitative Protein Analysis
 - Utilizing iTRAQ and ICAT labeling, the QSTAR Elite platform can be used to obtain relative protein quantification.
2. Identification of Protein Modifications
 - The high resolution and mass accuracy of MS and MS/MS provide unequivocal information on the type and location of protein post-translational modifications.
3. De Novo Peptide Sequencing
 - The high mass accuracy of the QSTAR Elite makes it an ideal tool for de novo peptide sequencing.
4. Protein Identification
 - The QSTAR Elite can be used for high-throughput identification of proteins via LC/MS/MS analysis of enzymatically-digested protein mixtures followed by database searching of MS/MS spectra.
5. Accurate Mass for Metabolite Identification
 - The QSTAR Elite can be used to analyze the elemental composition of unknown drug metabolites. With accurate MS/MS-spectra-based mass assignments and structural information, we can confidently identify and fully characterize impurities as well as known and unknown metabolites.