



SCIEX QTRAP[®] 4500 LC-MS/MS System

System specifications

The SCIEX QTRAP 4500 system is a high sensitivity, bench top hybrid triple quadrupole-Linear Accelerator trap mass spectrometer designed for LC-MS/MS analyses. This instrument provides an uncompromised combination of Linear Accelerator Trap and triple quadrupole functionality, uniquely allowing both qualitative and quantitative analyses to be carried out in a single experiment. eQ electronics and the Curved LINAC collision cell provide support for fast chromatography applications with thousands of analytes.



System Specifications

| | | |
|-------------------------------------|--|---------------|
| Sensitivity MRM mode - positive ESI | Reserpine 1 pg on column | S/N > 300,000 |
| Sensitivity MRM mode - negative ESI | Chloramphenicol 1 pg on column | S/N > 300,000 |
| IDL - positive ESI | Reserpine 10 fg on column (609/195) | < 2.8 fg |
| IDL - negative ESI | Chloramphenicol 10 fg on column (321/152) | < 2.8 fg |
| Triple quad scan speed | 12,000 Da/sec | |
| Linear ion trap scan speed | 20,000 Da/sec | |
| Polarity switching time | 50 msec, in MRM and Scheduled MRM (sMRM) modes | |
| Minimum MRM dwell time | 1 msec | |
| MRM acquisition rate | 500 MRM/sec | |
| Triple quad mass range (m/z) | 5–2,000 | |
| Linear ion trap mass range (m/z) | 50–2,000 | |
| Triple quadrupole mass stability | 0.1 Da over 24 hours | |
| Scan Types | Full scan MS and selected ion for both Q1 and Q3, product ion scan, precursor ion scan, neutral loss or gain scan, multiple reaction monitoring (MRM), Scheduled MRM (sMRM), enhanced MS scan, enhanced product ion scan, enhanced resolution scan, MS3 scan, MRM3 scan, and TripleTrap scanning modes | |

System Specifications (continued)

| Resolution in LIT mode | Scan speed (Da/sec) | m/z 322 | m/z 922 |
|--|---|------------------------|---------|
| | 50 | 3200 | 9200 |
| | 250 | 1600 | 4600 |
| | 1000 | 1080 | 3100 |
| | 10000 | 540 | 1540 |
| | 20000 | 460 | 1320 |
| Sensitivity EPI mode | Reserpine 2 pg on column 200 μ L/min 150–650 Da at 10,000 Da/sec, sum of product ions 195 and 174 | S/N > 500 C.V. < 5% | |
| Sensitivity MRM ³ mode | Reserpine 2 pg on column 200 μ L/min MRM3 of 609.3/397/365 with 200 msec cycle time | S/N > 30 C.V. < 5% | |
| Detector type | AcQuRate pulse counting detector CEM | | |
| Dynamic range | 5 orders of magnitude | | |
| Ionization sources | Turbo V ion source housing with TurbolonSpray probe or APCI Probe (max temp: 750°C) ESI flow rate range: 5 μ L/min to 3 mL/min APCI flow rate range: 200 μ L/min to 3 mL/min | | |
| Optional sources | DuoSpray Turbo V ion source (combination ESI/APCI) | | |
| Built-in devices | High-precision syringe pump and switching valve | | |
| Standard software | SCIEX OS software v3.0 or higher, 1 license for instrument control and 1 license for qualitative and quantitative processing for 1 PC Or Analyst software 1.6.1 or later, contains technical controls for 21 CFR Part 11 compliance; includes Scheduled MRM Pro algorithm 21 CFR part 11 | | |
| Available software upgrades, SCIEX OS v3.0 or higher | Intact Quantification Scout triggered multiple reaction monitoring (stMRM) Central Administration Console (CAC) | | |
| StatusScope [®] compatible | Real-time monitoring and alerts of critical instrument parameters | | |

Disclaimer:

S/N measurements are calculated based on 1 standard deviation of at least 3 points of noise which produce the smallest standard deviation, after applying up to 3 Gaussian smooths. S/N ratio does not imply the limit of detection, LOD, or limit of quantitation, LOQ of the MS system, or any assay. The S/N ratio presented only applies to the concentrations specified and cannot be extrapolated to any other concentrations.

These specifications are not standard installation specifications for the SCIEX QTRAP[®] 4500 System. The QTRAP 4500 System is tested and installed in accordance with standard performance tests as described in the SCIEX QTRAP 4500 and 4500MD Series of Instruments Installation Checklist and Data Log (GEN-IDV-06-1213)

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