

Chemical Terrorism Laboratory

Triple Quadrupole LCMS System Specifications

- High Pressure Liquid Chromatograph (HPLC) and Mass Spectrometer (MS) must both be manufactured by the same company.
- Manufacturer must offer single software program control of LC and MS
- Detection limit of < 3.5 fg reserpine in positive ionization mode, or alternatively a S/N > 850,000:1 for a 1 pg reserpine injection to be demonstrated at installation as an instrument checkout.
- Upper mass limit of not less than 3000 m/z
- MRM speed of no less than 500 transitions/s
- Not less than 33,000 MRMs per method, or 4000 dynamic MRMs
- At least six orders of linear dynamic range
- Vent-free removal of ion injector capillary for maximum uptime
- Automated compound and source conditions optimizer software integrated into the acquisition software.
- Ability to schedule autotunes to complete at specified timepoints.
- Ability of the software to recognize carry-over at a user-defined threshold during a blank injection and automatically run additional blank samples until the carryover is acceptable with no user intervention.
- Ability of the software to recognize a sample as outside the calibration range and insert an additional sample with a lower injection volume later in the worklist or queue with no user intervention.
- Binary Pump, UHPLC pressure limit of 600 Bar, flow rates 0.001 – 5 mL/min.
- Autosampler with a flow through needle design capable of washing the outside of the needle and needle seat with a program of up to 3 disparate solvents for minimal carryover.
- Temperature controlled sample storage to 4 °C
- Sample capacity for HPLC vials or well plates and user-installable, expandable capacity of 432 vials or 16 shallow-well plates.
- Software control of column switching for 2 separate columns and independent temperature control of each for disparate methods.