MxP® Quant 500 XL kit requirements

This document specifies additional lab equipment and chemicals that are required but not included with the kit. Before starting with the kit, ensure that all required items are available.

LC-MS system (1|2)

Agilent	SCIEX
Mass spectrometer	
6495D or **6495C** Triple Quadrupole LC/MS System	**7500, 6500+, 5500+** or **5500** series (QTRAP or Triple Quad) with TurboV™ ion source or Optiflow Pro (high flow)
LC and autosampler	
– Agilent 1290 Infinity I/II UHPLC system with column oven. **NanoLC and microLC are not supported!** – 800 bar injection valve (Agilent part no. 5067-6698) replaces standard 1300 bar valve – 1290 Infinity II inline filters, 0.3 µm (2 pcs., before and after injection valve, Agilent part no. 5067-6189) – 96-well plate autosampler with temperature control (10 °C) – Injection volume range: 2 – 20 µL	– Standard flow HPLC or UHPLC system with column oven. **NanoLC and microLC are not supported!** – 96-well plate autosampler with temperature control (10 °C) – Injection volume range: 5 – 20 µL – Special sample rack for deep-well plates required for the following autosamplers: – Shimadzu: part no. 228-37546-92 (Deep-well MTP Rack, DWP-96) – UltiMate 3000: Thermo part no. 6820.4083 (30 – 36 mm height)
Tubing	
– Recommended between injector and column system: steel capillary – Recommended between column system and mass spectrometer: red PEEK Tubing 1/16" OD x 0.005" ID	

LC-MS system (2|2)

Thermo	Waters
Mass spectrometer	
TSQ Altis or **Altis Plus** with OptaMax NG H-ESI source and argon collision gas	**Xevo TQ Absolute** or **TQ-XS** with ESI source
LC and autosampler	
– Thermo Vanquish UHPLC system with the following configuration: – 35 µL mixer set, Vanquish H Pump (6044.5018) – 25 µL sample loop (6850.1911) – Vanquish active pre-heater, MP35N, 0.1 x 380 mm (6732.0110) – Vanquish post-column cooler 1 µL, 0.1 x 240 mm (6732.0510) – SII for Xcalibur 1.6 or later – Vanquish firmware 2.01 or later	– Waters ACQUITY UPLC® system with sample manager, solvent manager, and column oven: – Classic (loop-based) – I-Class (FTN) – H-Class (FTN) – Injection volume range: 2 – 20 µL **FTN samplers require extension loop of 50 µL or needle size of 30 µL!**
Tubing	
– Viper MP35N, 0.1 x 350 mm (6042.2340) – Divert valve to MS – Viper PEEK, 0.13 x 150 mm (6041.5616) – Ground union to spray needle – Recommended union (U-402) for FIA	– Recommended between injector and column system: steel capillary – Recommended between column system and mass spectrometer: red PEEK Tubing 1/16" OD x 0.005" ID

LC-MS instrument status

Condition
– **Serviced, calibrated and tuned instruments** according to manufacturer's recommendations on a regular basis – LC-MS system must be **free of ion-pair reagent**

Analytical column

HPLC and UHPLC	
Analytical column	**MxP® Quant 500 (XL) kit column system:** biocrates part number 21117.1 (UHPLC), 21117.2 (HPLC) (HPLC/UHPLC column + pre-column mixer + connector, factory assembled)

Laboratory equipment

Laboratory equipment (may also be available from your local kit distributor)		
	Nitrogen evaporator for 96-well plates*	Pressure manifold for 96-well plates*
Nitrogen evaporator or pressure manifold – **Requires nitrogen supply** – **Must be in a fume hood** – **No heater required**	Examples: – Porvair blowdown evaporator MiniVap® – Techne (FSC496D) – Sample concentrator from BenchTop Lab Systems (96 samples, BT1604) – VLM evaporators – Organomation MICROVAP microplate evaporator – Biotage TurboVap® 96	Examples: – Porvair UltraPPM LITE – Waters positive pressure-96 processor (186006961) – Biotage® PRESSURE+ 96 manifold (PPM-96) – CEREX® system 96 processor (288-0001) – Agilent positive pressure manifold 96 processor (PPM-96) – TECAN Resolvex® M10 96
Centrifuge	Must be able to centrifuge 96-well plates of 5 cm height at 500 x g	Not required when a pressure manifold is used.
Shaker	Any model with adjustable speed (450 – 1200 rpm) including a tray for plates and vials. Recommended: Eppendorf MixMate® or ThermoMixer®	
Pipettes	– Repeater, e.g. Eppendorf Multipette® E3 (with 2.5 and 10 mL tips) or similar electronic model – Single channel: volume range 10 µL – 1000 µL – 8-Channel: 10 µL – 150 µL	
Vortexer	Any model	
Balance	Accuracy < 1 mg	
Solvent bottles	50 – 1000 mL	

* See document "Technical guide-Nitrogen evaporators and pressure manifolds" for details.

Automation (optional)

Waters Andrew+ pipetting robot
Andrew+ system components and protocol specifications: https://dev-onelab.andrewalliance.com/library/mxp-quant-500-kit-automated-sample-prep-method-bQ0eLAMl

Solvents and chemicals

Solvents and chemicals	Purity
Ethanol, methanol, water, acetonitrile, isopropanol	LC-MS grade (ethanol: HPLC grade sufficient)
Formic acid	LC-MS grade (e.g. Honeywell Fluka™ 56302-50ML) **Fresh! New bottle or opened within past 6 months**
Phenyl isothiocyanate (PITC)	99%, for protein sequencing (e.g. Sigma-Aldrich 317861) **Fresh! New bottle or opened within past 6 months**
Pyridine	Purity >99% (recommended Acros Organics 131780500, 50mL) **Fresh! New bottle or opened within past 6 months**
Ammonium acetate	LC-MS grade
Phosphate buffered saline (PBS)	p.a. grade (e.g. Sigma-Aldrich P4417)

Software

Agilent	SCIEX	Thermo	Waters
MS software			
MassHunter version 10.1 or 12	**Analyst®** version 1.7 or later **SCIEX OS** version 3 or later	**XCalibur™** 4.5 or later SII 1.6 or later **Chromeleon™** CDS 7.3 or later (please contact biocrates support)	**MassLynx®** version 4.1 or later
biocrates WebIDQ workflow manager			

Please get one of the three subscription versions through our webshop or your local distributor:

- WebIDQ cloud subscription (10 GB storage space) – biocrates part number 21629
- WebIDQ cloud+ subscription (50 GB storage space) – biocrates part number 21926
- WebIDQ on-premises subscription – biocrates part number 21636

For detailed system requirements please visit:
https://shop.biocrates.com/faq/What-are-the-system-requirements-for-WebIDQ