

BioAccord System

The BioAccord™ System is a fully integrated solution that simplifies high performance LC-MS analysis for every user. A purpose driven biopharmaceutical solution, it is an easy-to-use system that puts the power to make decisions directly in your hands; a self-calibrating, self-optimizing, self-sufficient tool that equips you with high quality data you can use to tackle the challenges you face every day during biopharmaceutical development and manufacturing.

The BioAccord System provides a new level of user experience through simple, consistent, and automated setup for all scientists.

In addition to providing high quality data, the BioAccord System is optimized for unparalleled robustness and reproducibility for each application, giving you the confidence of obtaining consistent results day in, day out.



SYSTEM PERFORMANCE

Dynamic Range and Sensitivity (ESI+)

BIOACCORD SYSTEM FOR PROTEINS AND PEPTIDES

Dynamic range	Using Waters™ Humanized mAb Mass Check Standard (pn: 186009125) the system will meet the following criteria on the three largest glycoforms over 2 orders of column loading; Glycoform Relative % Abundance Reproducibility <5% RSD, Mass Accuracy <30 ppm and Mass Precision <5 ppm SD.
Sensitivity	Using Waters Humanized mAb Mass Check Standard (pn: 186009125) the system will meet the following criteria on the three largest glycoforms with a 25 ng column loading; Glycoform Relative % Abundance Reproducibility <5% RSD, Mass Accuracy <30 ppm and Mass Precision <5 ppm SD.

BIOACCORD SYSTEM FOR GLYCANS

Full coverage of expected components in Waters RapiFluor-MS™ Glycan Performance Test Standard (pn: 186007983) within a 5 ppm mass accuracy and +/- 0.2 Glycan Units (GU) retention time library identification.

The system will correctly identify all expected glycan components with a relative abundance of 0.5% and above of the total based on the FLR chromatographic peak areas.

SOLVENT MANAGEMENT

Number of carrier solvents	Up to four, in combination of two: A1 or A2 and B1 or B2
Solvent storage	Four carrier solvent bottles
Solvent conditioning	Vacuum degassing of carrier solvents
Carrier flow range	0.001 to 2.000 mL/min, in 0.001 mL increments 4 mL/min for priming
Carrier composition	0.0 to 100% in 0.1% increments
Gradient formation	High pressure mixing, binary gradient
Carrier gradient profiles	11 gradient curves, including linear, step (2), concave (4), and convex (4)

SAMPLE MANAGEMENT

Injection volume range	0.1 to 10.0 μ L as standard configuration Up to 1000 μ L with optional extension loop
Sample capacity	Any two of the following: 96 and 384 microtiter plates 48 position 2.00 mL vial plates 48 position 0.65 mL micro-centrifuge tube plates 24 position 1.50 mL micro-centrifuge tube plates
Sample compartment temperature range	4.0 to 40 $^{\circ}$ C, settable in 0.1 $^{\circ}$ C increments; maintains 19 $^{\circ}$ C below ambient with a tolerance range between -2 and +4 $^{\circ}$ C

OPTICAL DETECTION

ACQUITY™ UPLC™ TUNEABLE UV DETECTOR

Wavelength range	190 to 700 nm
Wavelength accuracy	\pm 1 nm
Data acquisition	Up to 80 Hz

ACQUITY UPLC FLUORESCENCE DETECTOR

Wavelength range	200 to 890 nm (Excitation) 210 to 900 nm (Emission)
Bandwidth	20 nm
Wavelength accuracy	\pm 3 nm
Data acquisition	Up to 80 Hz

MASS DETECTION

Ionization mode	Electrospray Ionization (ESI) Adjustment-free high performance ZSpray™ dual-orthogonal atmospheric pressure ionization electrospray interface for robustness and reliability Integrated adjustment-free plug-and-play probe for reduced dispersion and reliability
Mass analyzer	The instrument is equipped with a high resolution, high stability ToF mass analyzer
Vacuum system	A fully automated and differentially pumped vacuum system comprising of an air-cooled split-flow turbo pump and one rotary backing pump
Scan speed	1 to 20 Hz
Acquisition modes	Full scan (MS) Full scan with fragmentation (data independent acquisition)
Mass range	Positive ion: 50–2000 or 400–7000 <i>m/z</i> Negative ion: 50–2000 or 400–5000 <i>m/z</i>
Mass measurement accuracy	BioAccord System for Proteins and Peptides: Mass accuracy for the top 3 Glycoform peaks in Waters Humanized mAb Mass Check Standard (pn: 186009125) over 10 repeat injections <20 ppm. BioAccord System for Proteins and Peptides: Better than 90% coverage for mAb Tryptic Digest Standard (pn: 186009126) using a 5 ppm mass filter, using parent ion and ≥ 3 associated fragments. BioAccord System for Glycans: All expected glycan components in the Waters <i>RapiFluor-MS</i> Glycan Performance Test Standard (pn: 186007983) can be identified using a combination of 5 ppm mass filter and +/- 0.2 Glycan Units (GU) retention time library identification.
Mass resolution	>10,000 FWHM measured on a singly charged ion between 550 and 650 <i>m/z</i> . The instrument will be tuned using the automated setup and calibration routine.
ACQUITY RDa™ Detector dimensions	Width: 40.0 cm Height: 75.3 cm Depth: 76.4 cm
Regulatory approvals/marks	CE, CB, NRTL (CAN/US), RCM

SYSTEM SOFTWARE SPECIFICATIONS

Software	Systems supported in UNIFI™ Scientific Information System v1.9.4
Health system	<p>The ACQUITY RDa Detector has an automated instrument set up and calibration routine for consistent results between users of all experience levels.</p> <p>The ACQUITY RDa Detector monitors instrument performance from run-to-run to ensure high quality data and increase confidence in your results. If a fault occurs the software will display information that provides step-by-step guidance on fixing the fault.</p>

It should be noted that the above are not standard installation specifications. All BioAccord Systems will be installed and tested in accordance with standard performance tests as detailed in the relevant Waters Installation Checklist document. Test criteria are routinely reviewed to ensure quality is maintained and are therefore subject to change without notice. See Site Preparation Guide and Product Release Notes for additional product and specification information.

Waters

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