

HOW DIFFERENT ENDOTOXIN TESTING PLATFORMS WORK



A Summary of Kinetic Chromogenic Testing Systems

	ROBOTIC PLATFORM WITH 96-WELL PLATE READER	ROBOTIC PLATFORM WITH CARTRIDGE READER	MULTIPLE CARTRIDGE READER	96-WELL PLATE READER	MICROFLUIDIC AUTOMATION PLATFORM – SIEVERS ECLIPSE*
	Robotic liquid handling is integrated with traditional 96-well plates to pipette LAL reagents, control standard endotoxin/reference standard endotoxin (CSE/RSE), and samples.	A liquid handling robot is paired with LAL cartridge technology. Cartridges contain LAL reagent, chromogenic substrate, and CSE.	This multi-cartridge system uses LAL-cartridge technology to run one sample per cartridge. LAL reagent, chromogenic substrate, and CSE are contained within disposable cartridges.	Performing traditional LAL assays with 96-well microplates requires a high volume of pipetting and is time consuming and prone to errors. Standards and samples must be prepared, and lysate must be reconstituted prior to addition.	Microfluidic automation minimizes pipetting and mixing steps without the use of robotics. This microplate-based platform uses embedded RSE with centrifugal microfluidics to automate standard curves, PPCs, and mixing. Minimal LAL reagent is required.
TECHNOLOGY	Robotic liquid handling, plate based	Robotic liquid handling, cartridge based	Cartridge based	Manual pipetting	Automated microfluidic liquid handling
STANDARD CURVE AUTOMATION	Yes. Robotic dilution of CSE/RSE.	No. Archived standard curve. CSE embedded.	No. Archived standard curve. CSE embedded.	No. Manual pipetting of CSE dilutions.	Yes. RSE embedded.
HANDS-ON TIME	 Robotic deck layout and script	 Robotic deck preparation and cartridge loading	 Individual sample loading and pipetting	 No robotics, extensive manual pipetting	 No robotics, minimal pipetting
LAL USAGE					
SAMPLE THROUGHPUT					
COMPLIANT ENTERPRISE SOFTWARE					
VALIDATION CONSIDERATIONS	Robotics and standard IQ, OQ, PQ	Robotics, cartridge hold time study, and standard IQ, OQ, PQ	Standard IQ, OQ, PQ	Standard IQ, OQ, PQ	Standard IQ, OQ, PQ
FOOTPRINT IN LAB					

Based on average 8-hour shift using a single platform.

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