



Charles River Introduces the First Rapid Animal-Free Bacterial Endotoxin Test

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Endosafe® Trillium™ recombinant cascade reagent (rCR) cartridges provide an alternative option to bolster commitments to sustainability and animal welfare

WILMINGTON, Mass.--(BUSINESS WIRE)--Jan. 29, 2024-- Building upon its flagship Endosafe® cartridge technology, Charles River Laboratories International, Inc. (NYSE: CRL) has advanced this innovation one step further and combined it with their recombinant cascade reagent (rCR) to launch the Endosafe® Trillium™ rCR cartridge offering. Expanding its robust bacterial endotoxin testing (BET) portfolio with a new animal-free testing solution, this offering, which builds on Charles River's existing Trillium rCR vial product, enhances testing efficiency and accelerates manufacturing timelines while simultaneously contributing to Charles River's [4Rs imperatives](#) (Replacement, Reduction, Refinement, and Responsibility) and further progressing our clients goals on sustainability and animal welfare.

Designed to deliver rapid, quantitative results, the rCR cartridges are pre-loaded with all the reagents required to perform an endotoxin test, eliminating need for preparation of multiple reagents, and reducing the opportunity for technician error. Additionally, the product is fully aligned and integrated with Charles River's existing suite of Endosafe cartridge instrumentation and software, allowing for current limulus amoebocyte lysate (LAL) cartridge clients to transition seamlessly.

Historically, endotoxin testing has relied on the Atlantic horseshoe crab, whose blood contains LAL, an aqueous extract of blood cells. LAL is the critical component of the testing of implantable medical devices and injectable pharmaceutical products to ensure the absence of endotoxins that can cause pyrogenic responses and symptoms of septic shock. The Trillium rCR formulation within the cartridge technology detects and quantifies natural environmental endotoxins by simulating the LAL enzymatic cascade through an optimized formulation and composition of three recombinant proteins (recombinant Factor C, recombinant Factor B, and recombinant proclotting enzyme) and a specific concentration of key components. Our extensive data package supporting our proprietary matrix demonstrates assay superiority in accuracy, comparability, and robustness.

Charles River continues to apply the highest scientific standards when offering new and innovative products in its BET portfolio. The Trillium cartridge was developed following a data-driven decision-making process to create a product that ultimately will provide the highest quality results among recombinant technologies and ensure patient safety. Samples representing a wide group of product types from global geographies were tested through a beta study of existing cartridge clients. The results for these samples showed equivalency within that data set, supporting the claim of equivalency to LAL.

Approved Quotes

- “The launch of Charles River's Endosafe® Trillium™ cartridge revolutionizes the way the industry approaches endotoxin testing while strengthening our united commitment to sustainability initiatives. This year, as we celebrate the 20th anniversary of the original Endosafe LAL reagent cartridge technology, we are excited to bring a new animal-free option to clients that leverages innovative technology, while continuing to offer our LAL-based offerings for clients whose work requires them.” – Birgit Girshick, Corporate Executive Vice President & Chief Operating Officer, Charles River.
- “We are proud to support our clients' wide range of BET needs with this first-ever animal-free cartridge. In conjunction with our LAL-based cartridges, which utilize 95% less horseshoe crab raw material required for a traditional bacterial endotoxin test, the Trillium cartridge builds on our portfolio to provide our clients with robust animal-free and animal-reduced offerings.” – Gregory Marshall, Vice President and General Manager, Microbial Solutions, Charles River.
- “Using the Endosafe® Trillium™ rCR cartridges alongside our routine testing was straightforward for our technicians, as the test method remains identical, and the results are reported the same way. We were pleased with the technology implementation, quality of data, and onboarding as it was simple and seamless, which is ideal when introducing such an impactful change in the microbiology lab. We look forward to moving to Endosafe® Trillium™ rCR cartridges for routine testing later in the year as part of our environmental sustainability efforts.” – Greg White, Microbiology Laboratory Supervisor & Blackpool STEM Lead, DePuy Synthes International.

About Charles River

Charles River provides essential products and services to help pharmaceutical and biotechnology companies, government agencies and leading academic institutions around the globe accelerate their research and drug development efforts. Our dedicated employees are focused on providing clients with exactly what they need to improve and expedite the discovery, early-stage development, and safe manufacture of new therapies for the patients who need them. To learn more about our unique portfolio and breadth of services, visit www.criver.com.

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