PYROSTAR™

LAL Reagent Products for Detection of
BACTERIAL ENDOTOXIN

Limulus Color KY Series

FUJIFILM Wako Chemicals U.S.A. Corp.

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The Limulus Color KY Series

The Limulus Color KY Series includes both a multi-test kit and a single-test kit, each designed for time-based chromogenic analysis, using a synthetic substrate which produces a yellow color and can specifically detect endotoxin with high sensitivity.

Product features

- Endotoxin-specific lysate, avoids false positive results from glucans
- Available in multi-test vials or single-test vials
- Quantitative Kinetic-Chromogenic Assay (KCA) reagent
- KCA assays can be performed in tube reader or microplate reader
- KCA quantitative range detection limit of 0.0002 EU/mL (single-type) and 0.0005 EU/mL (multi-type).
- Available with matched control standard endotoxin (CSE)
- 100ul sample with tube reader; 50uL sample with microplate reader

Lysate with matched CSE

Limulus Color KY Test Kit • 3 multi-test vials (2.0 mL) + 1 vial CSE (500 ng/vial)	
Catalog number	Number of Tests
291-53101	60 tests

Limulus Color KY Single Test Kit • 25 single test vials + 1 vial CSE (500 ng/vial)	
Catalog number	Number of Tests
291-53601	25 tests

Principle

The reagent is based on the color development mechanism, illustrated in Figure 1 below, which is activated by the presence of endotoxin. First, a series of activations of serine protease precursors in the reagent occur, consequently triggering the final reaction, in which a clotting enzyme hydrolyzes the chromogenic substrate to release a yellow chromogen (pNA). Since (1→3)-β-D-glucan has also been found to activate the LAL, Wako has incorporated a large amount of (1→3)-β-D-glucan into the Limulus Color KY reagent so that the activation by (1→3)-β-D-glucan is completely inhibited. This allows the endotoxins to be specifically assayed.

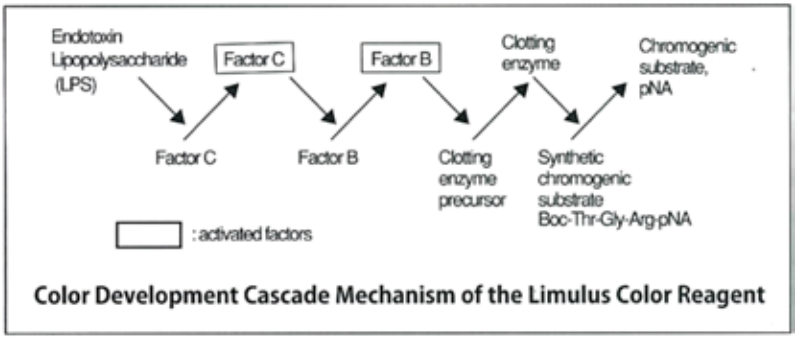

Figure 1

In the Kinetic-Chromogenic Assay using microplate readers, the time it takes for absorbance to reach the threshold value is measured. This time is defined as the activation time (Ta). A standard curve is then prepared by measuring the Ta for known endotoxin samples. Therefore, when the Ta of an unknown sample is measured, the endotoxin concentration of that sample can be obtained from the standard curve. A comparison between the tube and microplate reader platforms is shown below is figure 2.

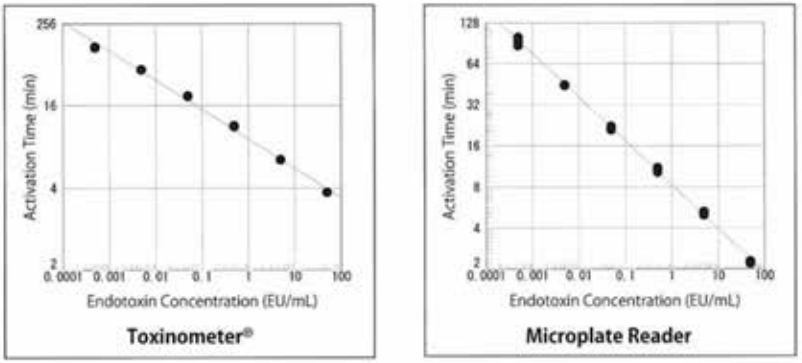

Figure 2

Performance

KCA assays can be performed in either a tube reader (Toxinometer™) or microplate reader

Greetings from FUJIFILM Wako Chemicals U.S.A. Corp.

Since the establishment of our first satellite sales office in Dallas, TX (1981), to the construction of our corporate headquarters and manufacturing facilities in Richmond, VA (1989), Fujifilm Wako Chemicals U.S.A. Corporation has strived to provide customers in all scientific disciplines with products of the utmost quality and dependability.

Long recognized as a world-renowned supplier of high purity chemicals and reagents, our company continues to maintain a proud history of product quality and customer service through the establishment of the LAL Division, and the introduction of our new PYROSTAR™ ES-F line for the detection of bacterial endotoxin.

This publication represents the culmination of more than 30 years of research and development, dedicated to providing our customers with endotoxin-specific reagents for "every user and for every method."

We invite you to review our catalog and look forward to having the opportunity to serve you.

Our Promise

As an FDA licensed facility, FUJIFILM Wako Chemicals U.S.A. Corp. – LAL Division is committed to ensuring that our production site and LAL reagents comply with all the rules, regulations, and quality standards set forth by FDA for current Good Manufacturing Practices (cGMP's).

Horseshoe Crab Conservation

FUJIFILM Wako Chemicals U.S.A. Corp. is very much concerned with maintaining the viability of the horseshoe crab population. We are dedicated to following practices that ensure the careful handling and good quality of crabs used for LAL manufacture that both minimize injury and protect this invaluable species. After bleeding, the crabs are returned the next day by our fishermen to the same waters where they were collected. To assist in the collection of data for crab conservation studies, Fujifilm Wako Chemicals U.S.A. Corporation participates in a horseshoe crab tagging and monitoring program coordinated by the U.S. Fish and Wildlife Service.

FUJIFILM Wako Chemicals U.S.A. Corp. - Cape Charles Bleeding Facility: Cape Charles, Virginia 23310

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FUJIFILM Wako Chemicals U.S.A. Inc.

1600 Bellwood Road, North Chesterfield, VA 23237
Toll Free: 800-992-9256 • Tel: 804-714-1919
Tel: 804-672-4655 • Fax: 804-271-7791
Email:pyrostarinfo@fujifilm.com
www.wakopyrostar.com