

Greetings from Wako Chemicals USA, Inc.

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), Wako Chemicals USA 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, Wako Chemicals USA, Inc. – 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

Wako Chemicals USA, Inc. 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 fisherman to the same waters where they were collected. To assist in the collection of data for crab conservation studies, Wako USA participates in a horseshoe crab tagging and monitoring program coordinated by the U.S. Fish and Wildlife Service.



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PYROSTAR™

LAL Reagent Products for Detection of
BACTERIAL ENDOTOXIN



Limulus Color KY Series

Wako Chemicals USA, Inc.

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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 colorimetric analysis, using a synthetic substrate which produces a yellow color and can specifically detect endotoxin with high sensitivity.



Product features

- Avoids false positive results
 - Endotoxin-specific lysate, avoids false positive results from glucans
 - Single-test (tube) configuration avoids "Hot Wells"
- Available in multi-tests vials or single-test vials
- Quantitative KCA reagent (kinetic-chromogenic assay) 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)

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, when not present in high concentrations, 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 and therefore allows the endotoxins to be specifically assayed.

In the kinetic colorimetric 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 or 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.

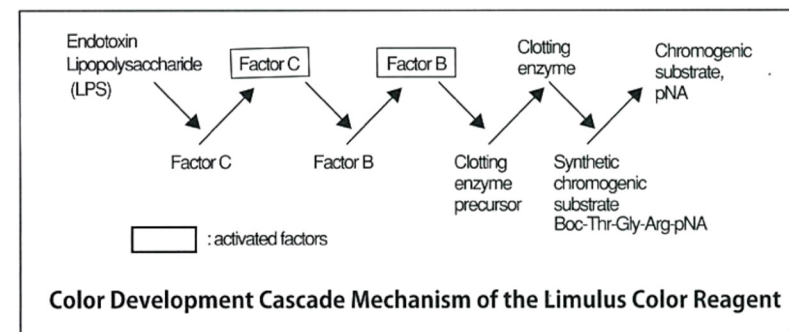
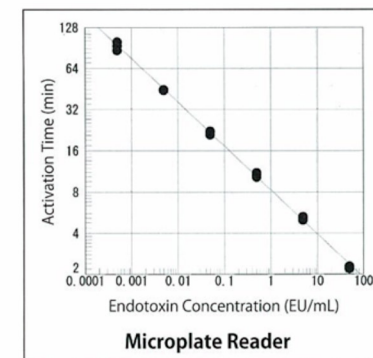
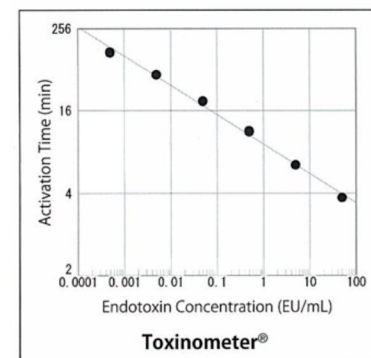


Figure 1



Performance

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