

Botulinum Toxin Suspicious Powder Assay

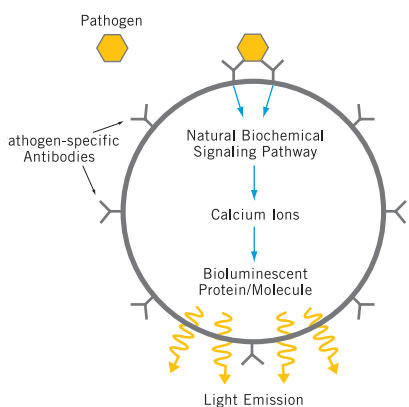
THE CANARY®- ZEPHYR SYSTEM ALLOWS FOR UNPARALLELED DETECTION OF LOW LEVELS OF BOTULINUM TOXIN (BoNT) IN 15 MINUTES.

CANARY® technology was developed by MIT-Lincoln Laboratory under a DARPA contract, and commercialized by PathSensors, Inc. The technology utilizes biosensors created to express surface-bound, target-specific antibodies and a bioluminescent protein.

When the biosensor binds to its target pathogen, the antibodies trigger the intracellular release of calcium. This calcium causes the bioluminescent protein to emit light. Sophisticated algorithms analyze this light output, resulting in definitive “positive” or “negative” test results.

Advantages of this system are its extreme speed and sensitivity. The speed of detection is a result of rapid intracellular signaling. The sensitivity is achieved through signal amplification within the biosensor cell. This leading edge technology identifies targets in 3 to 15 minutes with analytical sensitivities down to 10's of CFUs/PFUs and picograms of target per sample.

CANARY® Technology



BioSensors Available

<i>Salmonella</i> spp.	<i>Bacillus subtilis</i> spores
<i>Listeria</i>	<i>Campylobacter</i>
<i>Bacillus anthracis</i> spores	<i>Ralstonia</i> spp.
<i>Francisella tularensis</i>	<i>Potyvirus</i>
<i>Yersinia pestis</i>	<i>Phytophthora</i> spp.
<i>Orthopox</i> virus	<i>Dengue</i> virus
<i>Ricin</i> toxin	<i>Vibrio cholerae</i>
<i>Botulinum</i> toxin	(strains O139 & O1)

Assay Specifications

Analytical Sensitivity (LoD)	16 pg per assay Botulinum Neurotoxin (BoNT/Hc, active Botulinum toxin A)
Assay Sensitivity	PID 50% 1 ng/mL; PID 95% 5 ng/mL (<i>Clostridium botulinum</i> BoNT A, CAS # 93384-43-1)
Resistance to Interferents	0 false positives with 31 suspicious powders (see suspicious powder list on reverse side)
Time to Results	< 15 minutes

External Test Results

Validation	Omni Array (LoD) Biotechnology LLC; Rockville, MD 2.5 ng/assay BoNT A Complex; 250 pg/assay BoNT A Neurotoxin
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Suspicious Powders Tested

The **CANARY®-Zephyr Botulinum Toxin (BoNT A)** assay has been extensively tested for the ability to detect BoNT A both alone and in combination with a variety of suspicious powders.

The suspicious powders used for testing were:

Acetaminophen	Dairy creamer	L-glutamic acid
Aerosil powder	DiPel	MiraLAX®
Ajax®	Dry milk	Powdered sugar
Baking powder	Epsom salt	Road dust
Baking soda	Foot powder	Salt powder
Bentotite	Gamma aminobutyric acid	Spackling powder
Borax®	Gym chalk	Talcum powder
Chalk	Infant formula	Tooth powder
Chitin	Instant pectin	Tums™
Corn starch	Kaolin	Yeast

SOURCE: Suspicious Powders Panel, Critical Reagents Program.

About PathSensors

PathSensors is a leading biotechnology solutions and environmental testing company, providing high speed, high sensitivity, pathogen and threat detection solutions.

PathSensors' solutions can detect a wide range of threats, including Anthrax, Ricin, *Ebola* and *Salmonella*. PathSensors' technology is being used today by government and commercial customers for multiple applications.

ORDERING INFORMATION

Product	Catalogue #	Components
<i>Botulinum Toxin (BoNT A)</i> Assay kit	Cat # 0146	BoNT A biosensors, Reconstitution Buffer, Sample Diluent, Positive and Negative Controls, Control Buffer, Capture Beads, Assay Tubes
Zephyr™ Assay System	Cat # 0124	Luminometer, Mini-centrifuge, Touch screen computer, Powerstrip connector

To place an order or request more information, contact us at info@pathsensors.com or (443) 557-6150



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