

**11-TTAG-005**

<b>Company Name</b>	Biodetection-Instruments, LLC
<b>NAICS</b>	334516
<b>Address</b>	535 W. Research Center BLVD Suite 135
<b>City</b>	Fayetteville
<b>State</b>	AR
<b>ZIP</b>	72701
<b>County</b>	Washington
<b>Number of Employees</b>	17
<b>Year Established</b>	2004
<b>Company Web Site</b>	<a href="http://www.biodetection-instruments.com">http://www.biodetection-instruments.com</a>
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<b>Resource Provider</b>	Biodetection-Instruments, LLC
<b>RP Address</b>	535 W. Research Center BLVD Suite 135
<b>RP City</b>	Fayetteville
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<b>Project Area</b>	<a href="#">Advanced Materials and Manufacturing Systems - 4 - Other Advanced Materials and Manufacturing Systems (Please Provide short description in box provided below)</a>
<b>Project Area Brief Description</b>	Detection and Determination of Viability of Cryptosporidium oocysts by Capillary Column Immunosensor
<b>Federal Agency</b>	<a href="#">National Science Foundation</a>
<b>Project Title</b>	11-TTAG-005 - Detection and Determination of Viability of Cryptosporidium oocysts by Capillary Column Immunosensor
<b>Competitive Challenges</b>	Improve the safety and quality of the world's food supply by providing the highest performance biosensors, assay kits and instruments for rapid detection of food pathogens and chemical residues.
<b>Specific Problem</b>	NSF 09-541
<b>Solution</b>	This Phase II SBIR project will demonstrate proof-of-concept for development of a user-friendly, low cost detection method for viable Cryptosporidium in drinking water. The final detection system will meet or exceed the detection limits of EPA method 1623 (100 oocysts/L) using equipment that can be purchased, operated and maintained by personnel at a drinking water treatment facility. Methods will be explored to minimize the complexity of testing system, lower the detection limit and distinguish live from dead oocysts. The proposed detection system will ultimately provide quantitative results within 4 hours from sample acquisition.
<b>Implementation Plan</b>	The overall Phase II goal is to demonstrate the feasibility of adapting BioDetection Instruments' capillary column detection instrument (the AEGIS 1000™) for detection of Cryptosporidium oocysts. The detection limit demonstrated in Phase I will be below that of EPA method 1623. The overall procedure will be one that can easily be completed by water treatment facility personnel, thus reducing the cost and time for detection. This more rapid, simple and sensitive procedure will be an important tool to improve the safety of drinking water supplies. The specific Phase I objectives are: 1. Effectively and consistently lyse oocysts for detection in Aegis 1000™. 2. Identify

	<p>suitable antibodies for capture and detection of Cryptosporidium oocyst cell wall components in the capillary column system. 3. Detect at least 1000 oocysts/L or fewer per sample with the capillary column instrument. The procedure will utilize a portion the EPA 1623 protocol for concentration of the sample and will replace fluorescent microscopy detection with automated ELISA-based optical detection.</p>
<b>Maintenance Plan</b>	<p>Biodetection-Instruments, LLC will maintain the solution by obtaining any federal regularity. Also, Biodetection-Instruments, LLC will partner with manufacturing services to help produce the product commercially. We will also seek investment funding.</p>
<b>Step 1</b>	<p>1. Preparatory Work -Define Research Objectives -Outline Proposal - Discussions with funding agency - Literature search and review - Identification of potential users and partners</p>
<b>Step 1 Time</b>	20.00
<b>Step 1 Budget</b>	\$1,000
<b>Step 2</b>	<p>2. Proposal Content Development - Technology description and significance - Work plan development - Budget development - Commercialization plan</p>
<b>Step 2 Time</b>	50.00
<b>Step 2 Budget</b>	\$2,500
<b>Step 3</b>	<p>3. Final Proposal Preparation - Proposal review - Formatting and Proofreading - Letters of support, consultant letters - Agency Forms - Cover letters, copies, mailing</p>
<b>Step 3 Time</b>	30.00
<b>Step 3 Budget</b>	\$1,500
<b>Increased Sales</b>	\$0
<b>Retained Sales</b>	\$0
<b>CS Inventory</b>	\$0
<b>CS Labor</b>	\$0
<b>CS Materials</b>	\$0
<b>CS Other</b>	\$0
<b>II Plant</b>	\$0
<b>II IS</b>	\$0

<b>II Workforce</b>	\$0
<b>II Research</b>	\$500,000
<b>II Other</b>	\$0
<b>AUI</b>	\$0
<b>SOI</b>	\$0
<b>Job Retention</b>	1
<b>Job Creation</b>	1
<b>YN 90Days</b>	No
<b>YN Affiliation</b>	Yes
<b>YN Agreement</b>	No
<b>YN Total Project Price</b>	Yes
<b>Explain Total Project Price</b>	
<b>YN Cash Match Agreement</b>	Yes
<b>Copied</b>	No
<b>TTAG ID</b>	11-TTAG-005
<b>Signature Panel - RP AR Name</b>	Mark Kidd
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<b>Include in Batch</b>	Yes
<b>Batch Number</b>	NA
<b>Application Status</b>	Pending
<b>Organization</b>	ASTA
<b>BatchTest</b>	Processed
<b>Batch Date</b>	

<b>Set Batch Number</b>	
<b>Lvl4</b>	No
<b>Application Description</b>	6-Advanced Materials & Production
<b>SBIR-STTR</b>	Yes