

11-TTAG-029

Company Name	Vegrandis, LLC
NAICS	541710
Address	535 W. Research Center BLVD Suite 135
City	Fayetteville
State	AR
ZIP	72701
County	Washington
Number of Employees	15
Year Established	2002
Company Web Site	http://www.vegrandis.com
Contact Person	Calvin Goforth
Title	President
Phone	479-571-2592
Email Address	calvin.goforth@vegrandis.com
Fax	479-571-8814
Secondary Contact Name	Mark Kidd
Secondary Contact Title	Vice President of Finance and Administration
Secondary Contact Phone	479-571-2592
Secondary Contact Email	mark.kidd@vegrandis.com
Resource Provider	Vegrandis, LLC
RP Address	535 W. Research Center BLVD Suite 135
RP City	Fayetteville
RP State	AR
RP ZIP	72701
RP County	Washington

RP Project Contact	Mark Kidd
RP Title	Vice President of Finance and Admin
RP Phone	479-571-2592
RP Email	mark.kidd@vegrandis.com
RP Fax	479-571-8814
Project Area	Advanced Materials and Manufacturing Systems - 2 - Nanotechnology
Project Area Brief Description	project is to develop carbon-based nanoelectrodes to study intracellular processes and functions of single living cells through the electrochemical detection of intracellular species
Federal Agency	U.S. Department of Health and Human Services
Project Title	11-TTAG-029 - Carbon Nanopipette intracellular nanoelectrodes
Competitive Challenges	Vegrandis is a market-focused leader in microelectrochemical detection and carbon nanopipette applications. The company designs and builds nanoelectrochemical detection based point-of-care clinical assays, chemical/biological sensors, microarrays, laboratories-on-a-chip, reagent kits, and also carbon nanopipettes for cell electrophysiology and cellular injection applications. Vegrandis is committed to meet the needs of environmental monitoring, point-of-care diagnostics, bioterrorism defense and intracellular nanosurgery with disposable devices and inexpensive, easy to use instrumentation that accelerates analyses while reducing laboratory costs.
Specific Problem	NSF-SBIR-Phase 1
Solution	This SBIR phase I project is to develop carbon-based nanoelectrodes to study intracellular processes and functions of single living cells through the electrochemical detection of intracellular species. Carbon-based nanoelectrodes provide a means of studying the intracellular processes and organelle function in a single intact cell over long periods of time, capabilities not possible with current technologies. The patent-pending technology uses low-cost, scalable manufacturing processes to produce minimally invasive cellular probes with multiple nanoelectrodes at their tips. Studies will include the development of electrochemical capabilities of carbon-based nanoprobes for a wide range of biological applications, specifically the untapped commercial market for technologies that enable intracellular electrochemistry. A broad range of single cell applications are possible, including fundamental studies of cell signaling pathways, diagnosis of early-stage and infectious disease, evaluation of drug treatment efficacy, and monitoring health affects

	due to potentially hazardous environmental conditions.
Implementation Plan	The proposed research will highlight the electrochemical capabilities of carbon-based nanoprobe technology for a wide range of commercial applications, demonstrate carbon-based nanoprobe technology by enabling intracellular electrochemistry, a technique not possible with state-of-the-art technology, and help move the technology towards commercialization. Ultimately, the demonstration of intracellular electrochemistry will open up a completely new field of study; one that will require novel tools, materials, and techniques. The technology would be useful for a broad range of single cell applications, including fundamental studies of cell signaling pathways, diagnosis of early-stage and infectious disease, evaluation of drug treatment efficacy, and monitoring health affects due to potentially hazardous environmental conditions.
Maintenance Plan	The results gained from this SBIR phase I would demonstrate the unique capabilities of the technology, provide preliminary results with which to pursue further development and commercial opportunities in phase II and, ultimately, help transition the technology from industry and market.
Step 1	Preparatory Work -Define research and objectives - Outline Proposal - Discussions with funding agencies - Literature search and review - Identification of potential users and partners
Step 1 Time	20.00
Step 1 Budget	\$1,000
Step 2	Proposal Content Development - Technology description and significance - Work plan development - Budget development - Commercialization plan
Step 2 Time	50.00
Step 2 Budget	\$2,500
Step 3	Final Proposal Preparation - Proposal Review - Formatting and Proofreading - Letters of support, consultant letters - Agency Forms - Cover letters, copies, mailing
Step 3 Time	30.00
Step 3 Budget	\$1,500
Increased Sales	\$0
Retained Sales	\$0
CS Inventory	\$0

CS Labor	\$0
CS Materials	\$0
CS Other	\$0
II Plant	\$0
II IS	\$0
II Workforce	\$0
II Research	\$150,000
II Other	\$0
AUI	\$0
SOI	\$0
Job Retention	1
Job Creation	1
YN 90Days	No
YN Affiliation	No
YN Agreement	No
YN Total Project Price	Yes
Explain Total Project Price	
YN Cash Match Agreement	Yes
Copied	No
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Signature Panel - RP AR Name	Mark Kidd
Signature Panel - RP AR Email	mark.kidd@vegrandis.com
Signature Panel - Enterprise AR Name	Calvin Goforth
Enterprise - Email	calvin.goforth@vegrandis.com
Signature Panel - Enterprise AR Email	mark.kidd@vegrandis.com
Include in Batch	Yes

Batch Number	NA
Application Status	Pending
Organization	ASTA
BatchTest	Processed
Batch Date	
Set Batch Number	
Lvl4	No
Application Description	8-Biotechnology, Bioengineering & Life Sciences
SBIR-STTR	Yes