**Notice of Intent to Certify Sole Source**

**To:** Interested Parties

**From:** William P. Stitt

Chief – Supply Chain Management

**Date:** October 18, 2018

**Re:** Sole Source Certification Number SS5259\_Zeiss LSM 880 Confocal laser scanning microscope with Airyscan

**Contact Email Address:** [solesource@umc.edu](mailto:solesource@umc.edu)

**Sole Source Certification Award Details**

Regarding University of Mississippi Medical Center (UMMC) Sole Source Certification Number SS5259for **Zeiss LSM 880 Confocal Laser scanning microscope with Airyscan and all related accessories.** Please be advised that UMMC intends to award the purchase to Carl Zeiss Microscopy, LLC as the sole source provider.

Leica Offering: Leica SP8 DIVE MP Lightning Super-resolution system.

UMMC issues this notice in accordance with Mississippi state law, policy, and procedures for sole source procurements.

Sole Source Criteria

1. Where the compatibility of equipment, accessories, or replacement parts is the paramount consideration (and manufacturer is the sole supplier).
2. Where a sole supplier’s item is needed for trial use or testing.
3. Where a sole supplier’s item is to be required when no other item will service the needs of UMMC.

**Schedule**

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| --- | --- |
| **Task** | **Date** |
| First Advertisement Date | October 18, 2018 |
| Second Advertisement Date | October 25, 2018 |
| Response Deadline from Objectors | November 1, at 3:00 p.m. Central Time |
| Notice of Award/No Award Posted | Not before November 8, 2018 |

**Project Details**

1. **Describe the commodity that the agency is seeking to procure:**

The University of Mississippi Medical Center (UMMC) is seeking to procure the Zeiss LSM880 NLO multiphoton 34-channel GaAsP Spectral Array Detector + FAST AiryScan Super resolution laser scanning confocal microscope system with accompanying computers and software to operate the equipment, acquire images and other data, and analyze the acquired data.

1. **Explain why the commodity is the only one (1) that can meet the needs of the agency:**

In order to carry out proposed research, the Research lab is in need of an instrument capable of the following: Leica SP8 DIVE MP Lightning System

1. An instrument that allows for the separation of emitted fluorescent light into 30 or more channels and super-resolution imaging, in particular super-resolution imaging of deep structures using multi-photon confocal microscopy. In order to meet research needs, the system must have super-resolution capability that works with laser light emission including multi-photon laser excitation and does not require the use of photo-switching or other specialized fluorophores, but rather works with standard fluorescent proteins that already present in laboratory models. Leica can offer far more than 30 channels and super-resolution imaging. Leica is actually capable of detecting the entire visible spectrum with no gaps with 1nm resolution. We are also capable of coupling Lightning (our super-resolution product) with multi-photon laser excitation with no need of photo-switching or other specialized fluorophores. It too will work with standard fluorescent proteins. Leica will exceed these specs.
2. The lab needs the capability to simultaneously image several fluorophores with overlapping emission spectra to the degree of at least 30 channels of separation, which can only be achieved by prism-based separation, a micro-lens array, and a spectral detector capable of filtering light in 10nm increments with a per window resolvability of 1nm in either direction. Leica is the only company that offers a true prism-based spectral detection capable of far more the 30 channels that can be adjusted in 1nm increments. We also can adjust each channel to far better than 10nm (5nm on our system). The Zeiss solution employs gratings to achieve spectral detection. This is not a true prism based system. Leica is the only system that can offer true prism based spectral detection both for MP and confocal. This is patented by Leica. Leica exceeds the specs presented here.
3. Researchers are seeking diffraction breaking of the excitation laser to provide the option of 4X scan speed over traditional laser point scanning for time-sensitive experiments, and we also need to operate at this speed with super-resolution (< 120nm lateral resolution). Leica offers a resonant scanner that can be used with Lightning (super-resolution) that will give far more than 4X scan speeds than traditional confocal. We can achieve speeds of 16X faster than the Zeiss system. Leica exceeds the expectation presented here.
4. It is critical for intended future use that the system be upgradeable to be able to work with greater numbers of laser combinations. This system uses a twin-gate main beam splitter with two separate 13-position MBS wheels that allows for up to 50 different laser combinations. Leica offers an AOBS system is far more flexible than the filter base system in the Zeiss. The Leica AOBS system is the most versatile and fastest beam splitter on the market and is far more efficient the dichroic based system presented here. The AOBS is capable of 200 laser lines on a single system. Leica exeeds these expectations.
5. Tight control via software integration of laser intensities where, for standard confocal experiments using bright fluorophores, the laser power can be turned down to less than 0.005% and for low light fluorophores and/or deep imaging via multiphoton and/or for photo bleaching experiments the lasers can be powered up to 100% (i.e. we need the broadest dynamic range possible). Leica is capable of turning the laser intensity down to .005% and using it at 100%. Leica is also capable of adjusting this laser power automatically as we image deeper into the sample. All of which can be controlled within the software. Leica meets these expectations.
6. Freely rotatable scan field from 0-360 degrees to correct for angular movements of cells over time with live imaging as well as to standardize images and reduce variability across samples. Leica is also capable of rotating the image 0-360. In fact, we employ a 3 mirror system which is not only capable of rotating 360 degrees, but also maintains the flattest field possible. Leica exceeds these expectations.
7. Absolute linear scanner movement to ensure equal pixel dwell-times, which is required for quantitative comparisons of fluorescent intensities and/or numbers of fluorescent molecules, both within and across samples. Leica also offers absolute linear scanner movement. Leica actually offers both linear scan plus sinusoidal scan movement. The Leica system exceeds these specifications.
8. Image format resolution up to 8192 x 8192 for all PMT channels. Leica also offers 8192 X 8192 format for all channels. All detectors on a Leica system are inherently spectral based on our patented true prism based detection (no filters required). Leica exceeds these specifications.

The Zeiss LSM 880 confocal laser-scanning microscope with Airyscan is the only product on the market that can perform all of the above functions. This is an absolutely false statement. The Leica SP8 DIVE MP Lightning system can provide all of the above and more. Lightning offers greater than 120nm resolution in XY and is capable of 200nm resolution in Z (higher z resolution than Airyscan). The Leica DIVE system is the only spectral MP system on the market.

1. **Explain why the source is the only person or entity that can provide the required commodity:**

Carl Zeiss Microscopy, LLC is the only distributor of the Zeiss LSM 880 Confocal Laser scanning microscope with Airyscan. See supporting letter from Carl Zeiss Microscopy, LLC, Attachment A. Other super-resolution microscopes use cameras rather than GaASP detectors and therefore are not as sensitive as the proposed system. Still other systems offer super-resolution based on special fluorescent substrates that have the ability to switch from one color to another or switch between on and off states with low energy stimulation or other methods. The researcher requires the ability to look deeper into the tissues and cells with greater resolution at smaller structures and molecules. Additionally, the researcher will need have the ability to image at super resolution with very high speeds that are not achievable with systems other than the Zeiss AiryScan FAST module

1. **Explain why the amount to be expended for the commodity is reasonable:**

The estimated amount to be expended is for the purchase of theZeiss LSM 880 Confocal Laser scanning microscope with Airyscan is $800,000.00. This amount is within the expected price range for this equipment. Leica is able to offer a solution for less than $800,000.00 that will exceed all of the above specifications.

1. **Describe the efforts that the agency went through to obtain the best possible price for the commodity:**

Through market intelligence, UMMC was able to negotiate best pricing for these products. All applicable discounts were explored and applied. Leica was not presented with the opportunity to demonstrate or present our product.

**Submission Instructions and Format of Response from Objecting Parties**

Interested parties who have reason to believe that the Zeiss LSM 880 Confocal Laser scanning microscope with Airyscan (hereafter, “Products”) should not be certified as a sole source should provide information in the Vendor Form for the State to use in determining whether or not to proceed with awarding the sole source to RestWorks. The Vendor Form may be found at <http://www.dfa.ms.gov/media/1591/objectiontosolesourcedetermination.pdf>.

Objections must include the certification in Attachment B.

Comments will be accepted at any time prior to November 1, 2018, at 3:00 p.m. (Central Time) to [solesource@umc.edu](mailto:solesource@umc.edu). Responses may be delivered via email to [solesource@umc.edu](mailto:solesource@umc.edu). UMMC WILL NOT BE RESPONSIBLE FOR DELAYS IN THE DELIVERY OF RESPONSES. It is solely the responsibility of the Interested Parties that responses reach UMMC on time. Responses received after the deadline and responses that lack all required information will be rejected. UMMC reserves the right to inspect Interested Party’s commodity for comparison purposes.

If you have any questions concerning the information above or if we can be of further assistance, please contact [solesource@umc.edu](mailto:solesource@umc.edu).

Attachment A: Vendor Correspondence

Attachment B: Objection Certification

Attachment A



Attachment B

**SUBMITTED IN RESPONSE TO**

**Sole Source Certification No. SS5259**

**Accepted until November 1, 2018, at 3:00 p.m.**

I certify that the information contained in this objection is true and accurate to the best of my knowledge. I understand that UMMC will investigate all statements made in this objection and that any false or misleading information provided may result in adverse action.

**\_\_Nick Kocian -Confocal Application Specialist – Leica Microsystems, Inc.\_\_\_\_\_\_\_**

Objector Name

Objector’s title

**\_\_\_\_11/01/2018\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Date