Notice of Intent to Certify Sole Source

To: Interested Parties

From: Stacy Baldwin
Agency Procurement Officer

Date: September 10, 2015

Re: Sole Source Certification Number SS0008 for the Odyssey Imaging System

Contact Email Address: solesource@umc.edu

Sole Source Certification Award Details

Regarding UMMC Sole Source Certification Number SS0008 for the Odyssey Imaging System, please be advised that UMMC intends to award the purchase of the Odyssey Imaging System to LI-COR Biosciences as the sole source provider of the Odyssey Imaging 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

Task	**Date**
First Advertisement Date	September 10, 2015
Second Advertisement Date	September 17, 2015
Response Deadline from Objectors	September 24, 2015, at 3:00 p.m. Central Time

Notice of Award/No Award Posted	Not before September 24, 2015

Project Details

The University of Mississippi Medical Center seeks to purchase of the Odyssey Infrared Imaging System from LI-COR Biosciences. The Odyssey system is used to measure a broad linear dynamic range to accurately detect strong and weak bands on the same western blot by using florescent labeled antibodies.

The LI-COR Odyssey Scanner is an infrared imaging system that has the capability to measure a broad linear dynamic range to accurately detect strong and weak bands on the same western blot by using florescent labeled antibodies. High sensitivity is one important feature to detect protein levels from different tissue samples (brain, heart, muscle, fat, muscle, kidney, spleen, liver) and molecular weights which permits much more accurate quantification of the relative western blot bands due to highest signal-to-noise ratios. All information is perfectly synchronized to the system and the open platform for multiple applications (western blot, protein arrays, In-Cell western assays, On-Cell western assays, ELISA, in vivo imaging, DNA gel documentation) has been extensively used at UMMC and published in several peer-reviewed journals. It is also possible to reanalyze the collected data or verify/validate the original. The LI-COR Odyssey Scanner is sensitive and flexible; the data acquisition and management software is very sophisticated. All these features cannot be found in other commercially available infrared imaging systems.

The LI-COR Odyssey Scanner was developed and optimized to detect specific florescent labeled antibodies with highest sensitivity and accuracy. It is unique especially at 700-800 nm range detection system, and no other systems can achieve similar sensitivity at highest (800 nm) detection. Two color quantitative detection of western blot allows normalization of the target molecule by simultaneously quantification detection of a second target protein. In vivo and in vitro experiments using detection of fluorescently probe targets can be performed in mice or rats.

There are imagers made by other manufacturers, but only the Odyssey Scanner is capable of imaging a variety of specimen for a variety of purposes. All information is perfectly synchronized to the system and the open platform for multiple applications has been extensively used at UMMC and published in several peer-reviewed journals.

LI-COR is the only vendor who offers and makes the Odyssey CLx Infrared Imaging System. This system is not available domestically from any other distributor or reseller. Please refer to the LI-COR justification dated September 9, 2015 regarding sole source status, attached hereto as Attachment A.

The amount to be expended for the purchase of the Odyssey Infrared Imaging System is $51,264.00, including shipping. This amount is within the expected price range for this equipment.

LI-COR is the sole manufacturer and exclusive distributor for the Odyssey Infrared Imaging System. Through market intelligence, UMMC was able to negotiate best pricing for this new system. All applicable discounts were explored and applied.

Submission Instructions and Format of Response from Objecting Parties

Interested parties who have reason to believe that the Odyssey Infrared Imaging System should not be certified as a sole source should provide information in the following format for the State to use in determining whether or not to proceed with awarding the sole source to LI-COR Biosciences.

1.1 Interested Party Information

1.1.1 Company Name and Address

1.1.2 Contact Name, Phone Number, and Email Address

1.1.3 Company Website URL, if applicable

1.2 Objection to Sole Source Certification

1.2.1 Interested parties must present specific objections to the sole source certification, including, but not limited to, the following:

1.2.1.1 A detailed explanation of why Interested Party believes the Odyssey Infrared Imaging System is not a sole source procurement.

1.2.1.2 If Interested Party claims a comparable product exists, the objection must contain:

1.2.1.2.1 A description of the commodity that Interested Party believes is comparable to the Odyssey Infrared Imaging System;
1.2.1.2.2 An explanation of why Interested Party's commodity can also meet the needs of the agency; and
1.2.1.2.3 A list of sources from which Interested Party's commodity may be procured.

1.2.1.3 If Interested Party claims that the Odyssey Infrared Imaging System is available from a source other than LI-COR Biosciences, the objection must contain:

1.2.1.3.1 A written statement from LI-COR Biosciences that Interested Party is an authorized distributor or reseller of the Odyssey Infrared Imaging System.

1.2.1.4 A statement regarding the Interested Party's capabilities as related to this sole source certification.

1.3 Objections must include the certification in Attachment B.

1.4 Comments will be accepted at any time prior to Thursday, September 24, 2015, at 3:00 p.m. (Central Time) to solesource@umc.edu. Responses may be delivered via email to 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.

Attachment A: Vendor Correspondence
Attachment B: Objection Certification

Attachment B

SUBMITTED IN RESPONSE TO
Sole Source Certification No. SS0008
Accepted until September 24, 2015, 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.

_____
Objector Name
Objector's title

_____
Date

Odyssey® CLx Infrared Imaging System
Sole Source Specifications

LI-COR Biosciences is the sole manufacturer, vendor, and service provider for the Odyssey CLx Infrared Imaging System. The system is sold exclusively in the United States by LI-COR Biosciences, Lincoln, NE. This product is not represented or sold in the US by any distributors or other third parties.

The Odyssey CLx Infrared Imaging System is the standard in quantitative Westerns. Unlike traditional methods, the Odyssey CLx utilizes a patented direct-detection system featuring two spectrally separate solid state lasers to detect infrared dye-labeled conjugates and near-infrared stains. Advantages of this approach include:

Wide Linear Range

- Through the use of fluorescently labeled antibodies rather than an enzymatic reaction, the Odyssey Imager provides a broad linear dynamic range to accurately detect strong and weak bands on the same Western blot.

Two-Color Detection and Quantification

- Simultaneous, near infrared (NIR) detection and quantification of two targets within the same experiment. Quantification accuracy is increased when the second color is used for normalization.

High Sensitivity

- Use of the infrared spectrum provides sensitivity equal to or better than chemiluminescence because autofluorescence and light scatter are dramatically reduced. This results in the cleanest background, highest signal-to-noise ratios, and best detection sensitivity available with a fluorescent system.

Direct Detection

- When using the Odyssey CLx, there is no film, no darkroom, or messy substrates. The dyes are stable indefinitely on the membranes, as long as they are properly stored.

Open Platform for Multiple Applications

- The Odyssey CLx has been used extensively (and published in many peer-reviewed journals) for applications including, but not limited to, Western blot analysis, EMSA, protein arrays, In-Cell Western™ Assays, On-Cell Westerns, ELISA, *in vivo* imaging, Coomassie gel documentation, DNA gel documentation, Northern blots, and tissue section analysis.

Sole Source Specifications

Hardware Specifications

- Simultaneous, two-channel detection must be possible for multiplex sample analysis and/or normalization.
- For each channel, a dedicated and optimized laser and detection system must be provided.
- Two infrared, solid-state laser diodes emitting at 685 nm +5 nm and 785 nm +5 nm, respectively, must be the means of excitation of the fluorescent labels.
- Detection system must be based on single point detection by cooled Avalanche Photodiodes (APDs) to ensure high quantum efficiency of the detected signal.
- Laser lifetime must exceed 40,000 hours of operation time before failure. This keeps maintenance operational costs extremely low.
- Detection of the fluorescent dyes must be in the ranges (710 nm - 730 nm) to (810 nm - 830 nm) for the 700 nm and 800 nm channels, respectively, in order to obtain a high signal-to-noise ratio. No excitation/detection thresholds below 700 nm will be accepted.
- Automatic image capture that offers a dynamic range of greater than 6 logs and optimal image acquisition in a single capture.
- Linear dynamic range of the detection system must be at least 5 orders of magnitude.
- Laser/Microscope must be integrated into a precision scanning mechanism capable of scanning at resolutions of 21 - 337 µm.

Ronald Holley
Sr. Director International Distribution
9-9-15

LI-COR

- Data output must be an individual 16 Bit TIFF file format for each channel of detection.
- The system must have a minimal footprint to save lab space.
- The system must utilize a sealed, flat-bed scanning surface to accommodate varying sample media (membranes, multi-well plates, gels, small animals, slides, etc.).

Sole Source Comments

The Odyssey® CLx is unique in using two dedicated NIR laser / detection systems optimized for use with LI-COR's IRDye® infrared dye technology. Both operate simultaneously to save time and achieve two independent sets of raw data at identical settings. An automatic intensity adjustment that offers a dynamic range of greater than 6 logs allows for optimal image acquisition in a single capture. Avalanche Photodiodes (APD) are used in contrast to photomultiplier tubes (PMTs) for best Quantum Efficiency (QE at 800 nm: 8% for PMT, 80% for APD). All energy of the NIR lasers is applied to excite the respective IRDye infrared dyes, in contrast to Xenon light excitation where only a small fraction of the light energy is available for excitation of any dye at its respective excitation wavelength. The Odyssey CLx uses direct point scanning technology to minimize light paths, in contrast to other scanning devices where light has to travel a long distance and must pass multiple mirrors to excite / emit from the dye. This also makes the Odyssey CLx an extremely robust and reliable technology.

Application Specifications

- Two-color quantitative and highly sensitive membrane-based Western blot analysis with signals being simultaneously detected at 700 nm and 800 nm for ultimate sensitivity.
- Two-color quantitative detection of In-Gel Western assays for the immediate detection of proteins prior to blotting.
- Simultaneous 2-channel detection of infrared-labeled or NIR-stained nucleic acids should be possible using either agarose or PAGE gels.
- Two-color quantitative Northern blot analysis.
- Quantitative detection of target molecules (typically proteins) in cell culture grown in 6- to 384-well microtiter plates. Quantitative analysis must be possible for all target molecules or of surface-exposed target molecules. Normalization of the target molecule by the cell number must be possible by simultaneous and quantitative detection of a second target protein or quantitative detection of nucleic acids.
- Two-color quantitative and highly sensitive detection of protein arrays with a spot size >150 µm on nitrocellulose coated glass slides must be possible.
- EMSA detection and quantitative signal analysis using NIR-labeled DNA oligos must be possible in two channels simultaneously without the time-consuming need to disassemble the gel / plate sandwich.
- Two-color tissue section analysis must be possible at a resolution of 21 µm at 700 nm and 800 nm to minimize autofluorescence of the tissue by near-infrared fluorescence imaging.
- Near Infrared *in vivo* detection of fluorescently probed targets in small animals like mouse or rat must be possible to provide a common platform for *in vitro* and *in vivo* experiments.
- Highly sensitive and quantitative detection of Coomassie stained protein gels should be possible.
- A maximum sample area of 25 x 25 cm must be available.

Sole Source Comments

The versatility of the Odyssey CLx is a unique feature and of significant benefit to researchers. Its applications include Western blots, In-Cell Western™ (ICW) assays, On-Cell Western (OCW) assays, ELISA, Protease Assays, Protein and Nucleic Acid Arrays (spot size recommended to be >150 µm), tissue section analysis, Coomassie stained gel detection (1D and 2D, superior sensitivity to SyproRuby), Small Animal Imaging, non-isotopic EMSAs, Northern and Southern Blot analysis.

For Small Animal Imaging, the Odyssey MousePOD® *in vivo* imaging accessory is designed to fit specifically and exclusively with the Odyssey CLx Infrared Imaging System. It allows researchers to image infrared dyes injected into 1 to 3 mice or rats.

Reagent Specifications

- Available reagents must include fluorescent IRDye® infrared dyes for labeling antibodies, antibody fragments, peptides, proteins, oligonucleotides and DNA fragments for emissions higher than 700 nm.
- Reagent offering should include a NIR solution for the detection of HRP-conjugated antibodies.

- IRDye® infrared dyes must be available for direct infrared detection of samples on membranes, gels, glass, and plastic support, or within small animals and organs.
- The system must be able to scan for two different IRDye infrared dyes with emissions separated by at least 100 nm to eliminate spectral overlaps.
- No enzyme substrates, films, and darkrooms will be used to detect the signals.
- IRDye fluorophores must be very stable over several months and should provide the option to be rescanned with equivalent results.

Sole Source Comments

The Odyssey® CLx was developed and optimized to detect LI-COR's IRDye infrared dyes with the highest accuracy and highest sensitivity. It was not allowed to compromise performance in order to access other applications. It is unique in its combination of ultimate sensitivity and quantitative data output. Especially at the 800 nm range, no other systems can achieve the same sensitivity and thus meet our claim of "equal or better sensitivity compared to detection by chemiluminescence". If the customer is not already convinced by our range of publications, references, and specifications, a side-by-side comparison with competing systems offering IR capabilities should be the ultimate approach.

Analysis Software Specifications

- The Odyssey CLx Image Studio™ Software must be able to control the Imager and analyze the scanned data. Analysis must include sample quantification and molecular weight sizing.
- Image data must be available for viewing in a minimum of three modes - colored overlay, colored single channel, and single channel grayscale. These three methods will allow for a maximum amount of flexibility and detailed data analysis.
- Data and result output must be compatible with common spreadsheet and text software (e.g., Microsoft Excel, Microsoft Word).
- Each image must be able to be viewed as a raw image for the utilization of raw data analysis.
- Must be able to view plots of standards for quality control purposes.
- PC/Mac compatible.

Service and Support

- The system purchase should include installation and on-site training, a one-year warranty for parts and labor, and an option to purchase a support contract within one year of system purchase date.
- The manufacturer will provide highly knowledgeable, professional, and readily-accessible Field Application Scientists for on-site and / or remote training, servicing, and hardware, software, and application support.
- The manufacturer will provide highly knowledgeable, professional, and readily-accessible Technical Support personnel for remote hardware, software, and application support.
- The manufacturer will provide highly knowledgeable, professional, and readily-accessible Service Technicians for on-site and / or remote servicing of instrumentation.
- The manufacturer will supply customers with up-to-date protocols and application guides.

Patents

Odyssey CLx Infrared Imaging System

1. U.S. Patent 6,495,812, Apparatus and method for intersecting a light beam and a focal point of a detector at an object of interest. Issued August 2, 2000.

IRDye Infrared Dye Reagents

2. U.S. Patent 6,027,709, Fluorescent Cyanine Dyes. Issued Feb. 22, 2000.
3. U.S. Patent 6,995,274, Cyanine Dyes. Issued Feb. 7, 2006.
4. U.S. Patent 7,005,518, Phthalocyanine Dyes. Issued Feb. 28, 2006.
5. U.S. Patent application Serial #11/267643, Cyanine Dyes. Filed Nov. 4, 2005.
6. U.S. Patent application Serial #11/419457, Optical Fluorescent Imaging. Filed May 19, 2006.

4647 Superior Street • P.O. Box 4000 • Lincoln, Nebraska 68504 USA
North America: 800-645-4267 • Fax: 402-467-0819 • www.licor.com/bio
LI-COR GmbH Germany, Serving Europe, Middle East, and Africa: +49 (0) 6172 17 17 771
LI-COR UK Ltd. UK, Serving Denmark, Finland, Iceland, Ireland, Norway, Sweden, and UK: +44 (0) 1223 422104
All other countries, contact LI-COR Biosciences or a local LI-COR distributor: www.licor.com/distributors

982-12645
Rev 1 05/14