

 **DEPARTMENT OF BIOTECHNOLOGY**

**Indian Institute of Technology, Madras, Chennai, 600 036**

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 **Asst. Professor : Dr. Nathiya M.**  Date: 16.11.2022

 **Ref: BT/NATHIYA/2022/004/SPL Dt. 29.11.22 Due Dt. 5/12/22**

On behalf of IIT Madras, quotations are invited in two bid system, namely Technical Bid and Financial Bid for supply of High-sensitive Multiplex Chemi imager with stain-free imaging conforming to the specification given in Annexure-A

**1 Quantity: 1** No.

**2 PRICING TERMS:**

Discount offered if any to be shown separately. GST Registration is mandatory. The price to be quoted should be Nett inclusive of GST, freight, delivery charges, etc.

**3 VALIDITY**

The Quotations should be valid for 90 days from the due date.

**4 DELIVERY**

The item to be delivered within One Month from the date of Purchase Order

**5 PAYMENT**

 A percentage will be paid in advance and remaining will be paid after the receipt of the goods.

**6 BIDDER ELIGIBILITY CRITERIA:**

The bidder shall not be from a country sharing land border with India and if the bidder is from a country sharing land border with India the bidder should have been registered with the competent authority as per orders of DIPP OM No. F. No. 6/18/2019-PPD dated 23rd July 2020, and MoCI Order No. P-45021/112/2020-PP (BE II) (E-43780) dated 24th August 2020**.**

**7 NUMBER OF BIDS**

The bidders should submit the bids in two bid system as detailed below:

 **Bid I Technical Bid**

The technical bid should consist of Bidder Eligibility Criteria and technical specification as per Annexure- A .

**Bid II Financial Bid**

The Quoted price should be inclusive of all GST and duties, freight, etc.

**8 SUBMISSION OF TENDER**

Envelope 1 should contain signed tender document, filed technical compliance sheet as per format given in Annexure - A. This envelope shall be super-scribed as "Technical Bid".

Envelope 2 should contain Financial Bid. This envelope should be sealed and super-scribed as "Financial Bid".

All the above two envelopes, namely, Envelopes 1 and 2, must be placed in a larger envelope, sealed and should be super-scribed as “Tender for High-sensitive Multiplex Chemi imager with stain-free imaging. The bid should be **addressed to the undersigned so as to reach to the below address on or before the due date stipulated (5/12/22 @ 5.00 PM).**

**BIO Tech. Office**

**Indian Institute of Technology Madras**

**Chennai 600 036**

**9 EVALUATION OF BIDS:**

**Bid evaluation will take place in two stages.**

**Stage I: Technical Bid evaluation**

1. Bidder Eligibility Criteria will be evaluated first and those bidders who have complied with this criteria alone be evaluated for the technical Specification evaluation.
2. In the 2nd stage, the technical specification offered by the bidders will be evaluated by the technical committee for compliance. The proposed technical specification offered by the bidder should be equivalent to the specifications mentioned in the technical bid.
3. Bidders who have fully complied with Bidder Eligibility Criteria and technical evaluation will only be considered for opening of financial bid.

 **Stage II: Financial Bid Evaluation**

 The financial bid evaluation will be based on price quoted by the bidder (BoQ). The tender will be awarded to the L1 bidder.

**10** IIT Madras reserves the right to shortlist/reject any or all tenders and accept the whole or any part of a tender without assigning any reason.

 **SPECIFICATIONS**

 **Annexure A**

**High-sensitive Multiplex Chemi imager with stain-free imaging:**

* 1. System with true16 bit CCD (not A/D) camera; pixel density of 65,536 gray levels.
	2. Individual pixel size should be at least 4.54 x 4.54 µm or bigger.
	3. Camera resolution should be more than 6 megapixel.
	4. The instrument should provide excellent quantitative data from a single blot having very intense and weak signals in a single image; to facilitate the same instrument’s dynamic range should be at least 4 orders of magnitude for all applications (please support with relevant technical data)
	5. Instrument should provide highest level for sensitivity and hence must have minimal dark current with maximum limit of 0.002 e/p/s and low read noise of not more than 6e-.
	6. The camera should have peltier based cooling.
	7. Quantum efficiency at 425 nm should be 70% or more, this will ensure that the instrument is highly sensitive to very faint signals from chemiluminiscent blots.
	8. Motorized zoom fast lens with f/0.95 or better should be provided.
	9. Light sources/excitation should include – Trans-UV (302 nm), Epi White, trans-white (requires White sample tray), Epi-Blue Multiplexed LED (460-490 nm), Epi-Green Multiplexed LED (520-545 nm), Epi-Red Multiplexed LED (625-650 nm), Epi-far red Multiplexed LED (650-675 nm), Epi-near IR Multiplexed LED (755-777 nm) and should have option for trans-blue light (for SYBR safe DNA application).
	10. Instrument should have provision for protective UV shield for use during band excision with safety interlocks to avoid un-intentional UV exposure to the user.
	11. Minimum imaging area for white light and chemiluminesence application should be 20.5 cm x 16.5 cm.
	12. Should provide image acquisition with automatic zoom, focus, and iris adjustment without the need for users to focus or adjust aperture settings.
	13. The instrument should have onboard attached touchscreen of 12” or bigger with multi-touch capability (2 points) enabling users to easily interact with the touchscreen to acquire, assess and export images. Touchscreen actions should include – tap, double tap, pan, scroll and pinch to zoom.
	14. Instrument should have multiple input/output ports with minimum 3 USB ports allowing users to connect USB devices (like keyboard, mouse, data storage, and printer). One USB port should be provided on the front panel for easy export to USB. Also, system should have one Ethernet port so that users can transfer image files via Ethernet to networked computers.
	15. Factory calibrated flat fielding for ensuring uniform data for all applications. System should be calibrated for image area, focus, and flat field correction at the factory and files stored in the integrated PC.
	16. Users should be able lock the system to prevent other users from interrupting a long acquisition or changing the settings
	17. System should enabled with stain-free imaging of gels and blots.
	18. The system should have a fixed sample stage.
	19. The system should provide flexibility in selecting the pixel binning options, should be possible to select minimally 2x2, 4x4 and 8x8 binning.

***System Software-***

1. Software should have highest level of automation in hardware calibration, image optimization, capture, and analysis.
2. Should have automated workflow recorded in a protocol file from image capture to results thus eliminating need for training.
3. Should allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow.
4. Should have automated image capture driven by a selected gel or blot application.
5. Software should have automated normalization feature for normalizing western blot signals of target band with either a housekeeping protein band or total protein load of a sample.
6. Should generate publication ready images with user defined dpi, dimension and format with one click export option thus eliminating the need of using other software like Photoshop.
7. Should generate customizable reports.
8. Should have feature for Automatic print when only imaging and printing is required.
9. Software should have easy copy/paste functionality, crop, zoom, 3D and colors.
10. Signal Accumulation Mode (SAM) for easy optimization of exposure time for chemiluminescent detection.
11. Software should be both PC and Mac compatible.
12. Software should be provided for minimum 20 users with license for complete acquisition and analysis features.
13. Software should be able to export images on a 16-bit and 8-bit tiff images with a one-click export option.
14. Software should be able to export images in multiple formats with minimum options of exporting in .tiff, .png, .jpg and .bmp
15. Software should have unlimited undo and redo functions to easily correct for any missteps with additional features like easy copy/paste, crop, zoom, 3D viewer and colors.
16. Should be single software for acquisition and analysis.
17. The software provided should have minimum 10 citations in peer-reviewed international journals for use in western blot normalization using stain-free technology/method. Please attach the publications in technical bid highlighting the same.
18. Automated image capture optimized for each selected gel or blot application - Software should automatically select the appropriate filters, light sources, and camera settings for all applications. The software should ensure that image optimization is specific to a selected gel or blot application or can be used for a large portfolio of detection methods. Applications include chemiluminescent, colorimetric, and fluorescent blots, and nucleic acid and protein detection via colorimetric and fluorescent stains

Warranty: 1 year standard +2 year extended warranty

Vendors:

* + - 1. Should have made at least 10 installations of the required system in institutes of National importance (Attach PO copy and user certificate)
			2. Should have local presence in Chennai (Attach Proof)
			3. Bidders should give point-by-point compliance with respect to the tender specifications (Vendors will be disqualified if incomplete compliance sheet is submitted)