

**Inter University Centre for Evolutionary and Integrative Biology (iCEIB), University of Kerala, Kariavattom,**

Thiruvananthapuram, Kerala, India - 695581

TENDER -Pl.A1/CEIB/17

Dated 16.10.2017

**E-Tender Notice**

**Inter University Centre for Evolutionary and Integrative Biology (iCEIB),** University of Kerala, Kariavattom, invites open tender through e-Procurement (two cover system) from the Original Equipment Manufacturers or their Authorised Dealers for the supply, installation and commissioning of Live cell Imaging Multimode Reader with Accessories:

Last date and time for submission of tender online	<b>30.10.2017 AT 5.30 P.M</b>
Last date and time for submission of tender offline	<b>30.10.2017 AT 5.30 P.M</b>
Date and time of opening of tender	<b>03.11.2017 AT 11.00 AM</b>
Hard copies of the sealed tenders to be submitted to the office of	The Registrar, University of Kerala, Senate House campus, Palayam Trivandrum- 695 034, Kerala  e-mail: regrku@gmail.com
For technical details contact	Prof. M.C. Subhash Peter, Honorary Director, Centre for Evolutionary and Integrative Biology, University of Kerala.  Phone No. 9447044657  E-mail: subashpeter@yahoo.com

[For further details logon to www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in)

**TECHNICAL SPECIFICATIONS of Live Cell Imaging Multimode Reader with Accessories :**

**Specifications:**

Detection modes

- UV-Vis absorbance, Fluorescence intensity, Time-resolved Fluorescence and Luminescence

Read methods

- Endpoint, kinetic, spectral scanning, well area scanning

Microplate types

- Should be able to read 6, 12, 24, 48, 96 and 384-well plates
- Should be able to perform imaging applications in 6, 12, 24, 48, 96, 384 and 1536 well plates

Other labware supported

- Should be able to image in Microscope slides, Petri and cell culture dishes, cell culture flasks (T25), counting chambers (hemocytometer)

Temperature control

- incubation from ambient +40C to 45 °C with feature to control Condensation

Shaking

- Linear, orbital and double orbital

Software

- Single integrated software to control Instrument as well as perform Data and Image Analysis should be supplied

Automation

- It should be upgradeable to interface with Microplate Stacker and also compatible with Automated CO<sub>2</sub> / O<sub>2</sub> Incubator

#### CO<sub>2</sub> and O<sub>2</sub> control (option)

- Range: 0 - 20% (CO<sub>2</sub>); 1 - 19% (O<sub>2</sub>)
- Control Resolution: +0.1% (CO<sub>2</sub> and O<sub>2</sub>)
- Stability: +0.2% at 5% CO<sub>2</sub>; +0.2% at 1% O<sub>2</sub>
- Options for both CO<sub>2</sub> and O<sub>2</sub> or CO<sub>2</sub> only should be available

#### Fluorescence Intensity

##### Light source

- Xenon flash Lamp

##### Wavelength selection

- Quadruple grating monochromators. Should have Two excitation Monochromator and Two Emission Monochromator and should have both Top and Bottom reading probe
- Filter based fluorescence with Top Reading.

##### Wavelength range

- Monochromators: 250 - 700 nm, selectable in 1 nm increments
- Filters: 200 – 700 nm ( Selected filters)

##### Dynamic range

- 7 decades

##### Sensitivity

- Quad Monochromator:
- Fluorescein 2.5 pM (0.25 fmol/well, 384-well plate) – top
- Fluorescein 4 pM (0.4 fmol/well, 384-well plate) – bottom
- Filters/mirrors: Fluorescein 1pM typical (0.1 fmol/well 384-well plate)

##### Detection system

- Two PMT detectors: one for monochromator system, one for filter system

##### Reading speed

- 96 wells: 11 seconds; 384 wells: 22 seconds

##### Luminescence

- Wavelength range: 300 - 700 nm
- Dynamic range: >6 decades
- Sensitivity: Monos: 20 amol ATP (flash)

#### Time-Resolved Fluorescence

- Light source: Xenon flash
- Detector: PMT
- Wavelength: Quad monochromators & Filter selection
- Wavelength range: Monos : 250 - 700 nm, Filters: 200 – 700 nm
- Sensitivity: Monos: Europium 1200 fM (120 amol/well, 384-well plate)

Filter : Europium 100 fM (10 amol/well in 384-well plate)

#### Absorbance

- Light source: Xenon flash
- Detector: Photodiode
- Wavelength selection: Monochromator
- Wavelength range: 230 - 999 nm, 1 nm increment
- Monochromator bandwidth: 4 nm (230 - 285 nm), 8 nm (>285 nm)
- Dynamic range: 0 - 4.0 OD
- Resolution: 0.0001 OD
- Pathlength correction: It should have Pathlength correction feature
- Monochromator wavelength accuracy:  $\pm 2$  nm
- Monochromator wavelength repeatability:  $\pm 0.2$  nm
- OD accuracy: <1% at 2.0 OD, < 3% at 3.0 OD
- OD linearity: <1% from 0 to 3.0 OD
- OD repeatability: <0.5% at 2.0 OD
- Stray light: 0.03% at 230 nm
- Reading speed: 96 wells: 11 seconds; 384 wells: 22 seconds

#### Imaging System

- Imaging mode: Fluorescence and Brightfield
- Imaging method: Single color, multi-color, montage, time lapse, z-stacking
- Image processing: Z-projection, digital phase contrast, stitching
- Camera: 16-bit gray scale, Sony CCD, 1.25 megapixel. 0.3  $\mu\text{m}/\text{pixel}$  at 20x
- Objective capacity: 2 user-replaceable objectives
- Objectives: Should be supplied with 4x and 20x objectives
- Image filter cube capacity: Capacity for 4 onboard, user-replaceable filter cubes. At least 3 Image Filter Cube should be supplied
- Imaging filter cubes: Should be supplied with DAPI, GFP, Texas Red filter cubes

- Imaging LED: Should be supplied with 365 nm, 465 nm and 590 nm LED cubes
- Automated functions: User-trained autofocus, autofocus, autoexposure, auto-LED intensity
- Autofocus method: Image-based autofocus
- Positional controls: Software control
- Image collection rate: 96 wells, 1 color (DAPI), 4x, 6 minutes  
96 wells, 3 colors, 4x, 12 minutes

#### Power requirements

- Power: 100 – 240 V, 50/60 Hz, 250 Watts max.

#### Regulatory

- Regulatory: CE and TUV marked. RoHS Compliant.

#### Optionally Accessories

- Objectives : 10X, 40X & 60X
- Filter Cubes & :RFP,BFP,CFP & YFP
- LED Cubes : 523nm,465nm & 505nm
- Labware Holders : T25 flask adaptor,pertidish adaptor & Multi vessel adaptor

#### General Conditions:

1. The tender shall be submitted in the two bid viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.
2. The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization From and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the “Technical Specification”. Such equipment must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.

3. **Compliance Statement:** Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Venders should provide clear brochures/data sheets about the equipment and it's working. Also include adequate proof for the claim regarding the performance.**
4. **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India [Preferably South India] shall be mentioned in the bid.
5. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.
6. The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ.
7. **Payment Terms:** 90% payment shall be made through irrevocable LC on presentation of complete and clear shipping documents and balance 10% of the amount shall be released after the receipt, installation commissioning and acceptance of the equipment.
8. **Validity of tender:** Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.
9. **Delivery and installation:** Proposed delivery schedule should be mentioned clearly. Delivery and installation should be made at the Centre for Evolutionary and Integrative

Biology, University of Kerala, Kariavattom campus, Trivandrum without extra cost.  
University of Kerala will provide customs duty exemption certificates if required.

10. Service facility: Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.
11. The model number, make, and a printed literature of the product shall submit positively.
12. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
13. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.
14. If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.

**Documents to be Uploaded**

- 1 Signed Compliance Matrix
- 2 Detailed Technical Brochure
- 3 Under taking of support for next 10 Years
- 4 BoQ
- 5 DD/Hard copy of Bank Guarantee if opted

**The Registrar,  
University of Kerala,  
Senate House campus, Palayam , Trivandrum– 695 034, Kerala.**