

**Department of Biochemistry, University of Kerala, Kariavattom,  
Thiruvananthapuram, Kerala, India – 695581**

**Pl.A1/BCH/HPTLC/22**

Dated: 08.03.2022

**E-Tender Notice**

Department of Biochemistry, 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 “**Integrated HPTLC system**”, in connection with the implementation of the DST funded Scheme titled Fund for Improvement of Science and Technology Infrastructure in University and Higher Education Institutions (FIST) for a period of five years in the Department of Biochemistry.

Last date and time for submission of tender online	<b>06.04.2022; 5PM</b>
Date and time of opening of technical bid	<b>08.04.2022; 11AM</b>
Date and time of opening financial bid	After technical evaluation
For technical details contact	Dr. Mini S, Professor, Department of Biochemistry, University of Kerala Kariavattom, Thiruvananthapuram INDIA Mobile +919495276631 email: minisaraswathy@gmail.com

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

## **Technical specifications of HPTLC system**

### **Integrated HPTLC system for quantification, identification, finger printing and micro- preparative separations. High Performance Thin Layer Chromatography**

**HPTLC SOFTWARE** – New generation complete system & data acquisition, single software to link, control, integrate, manage the individual instruments for application, development, scanning and image documentation. Guides the user through chromatography steps. Numerous methods library available for internet download for lifetime. Client-server system for flexibility. Powerful database tracks individual samples and ensures data integrity. Automatic System Suitability detection and check. Built-in automatic back-up and restore tool for data. Produces a comprehensive GLP compliant analysis report with instrument, analyst, date, time, place, method parameters etc. and complete details. Communicates in both directions with instruments. Random and unique report ID given to each printout. Stores infinite number of methods and downloads them to instruments, when called for. Data security achieved through access control, customizable user Management, defined access levels to success. Safe database prevents accidental alteration / deletion. Essential for GLP & optional 21 CFR Rule 11 compliance and electronic data storage security and transmission

### **MANUAL SAMPLE SPOT APPLICATOR**

Manual device. Precise sample positioning at 5 mm intervals or multiple thereof. Precise volumes. Disposable capillaries of 0.5, 1.0, 2.0 & 5.0  $\mu$ L, sample application quality independent of analyst. Capillaries are loaded in reusable magazines, mounted on dispenser. Plate size acceptable upto 20x20cm. Magnets to hold plates.

### **CHROMATOGRAM DEVELOPMENT CHAMBERS**

All glass, moulded, one piece, bubble free chamber for TLC/ HPTLC. Bottom divided into two equal halves with a sloping divider. Chamber top and bottoms (both outside the chamber and inside the two troughs) should be perfectly parallel to each other.

Chamber ground finish on top for good seal and at bottom for perfect level. Heavy chamber to minimize effects of vibration. One piece joint less moulded chambers prevent leakage and tough to handle while cleaning. Stainless steel rust proof lid with overhang to completely seal the chamber. Appropriate sizes for 20x20 cm, 20x10 cm and 10x10 cm plates.

### **SOLVENT FRONT MONITORING DEVICE**

An electronic device to detect & monitor solvent front position during chromatography. Notifies acoustically & visually that mobile phase has reached the preset developing distance during chromatogram development. Works with glass plates being developed in glass chambers of different sizes 20 x 20 cm, 20 x 10 cm, 10 x 10 cm. Batteries included.

### **PHOTO RECORDING UV CABINET:**

**UV Cabinet with a digital camera mount.**

Enables to inspect the plate as well as keep a record by photo documentation. Images transferrable to PC. Digital camera required. Image can be attached to System Manager report. Image annotation software included.

Dual wavelength 254 nm + 366 nm with guaranteed minimum intensity, as follows: UV lamp at 17 cm distance. Short wave UV (254 nm) 1600, long wave (366 nm) 1000, Visible light (<400nm) 0.4. Full protection to viewer's eyes and skin from UV light for safety. High tech 50 kHz power supply for flickerless, instant illumination. Portable darkroom. Auto switch off after 10 min. Thermal sensor and tilt sensor built in.

### **TLC / HPTLC SCANNER WITH DATA EVALUTION**

System Manager controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check; Automatic quantitative measurement by absorbance & fluorescence; All facility plate sizes acceptable; Reciprocity of positioning better than 50µm in Y direction & 100µm in X direction. Scan speed 100mm/sec @ 25µm resolution; Quick scan facility; Wavelength range 190-900 nm; Wavelength accuracy better than 1nm and reproducibility better than 0.2nm. Monochromator flushing by nitrogen; Data sampling rate – 4000 / sec; Special Macro optics for TLC & Micro optics for HPTLC. Achromatic suprasil– fluorite lens system. Spectrum scan speed 100 nm / sec; Max 999 spectra / plate; Visible pilot slit image / scan compartment illumination with UV to check sample alignment with scan beam; D2, Hg, W lamps built-in. Self-diagnostic + Service dialog + Universal filter for fluorescence also built-in; scan slit size variable; bandwidth selectable 5 or 20 nm. 16 bits, 2 channel interface, 100mg per double conversion.

Data evaluation 32-bit software (latest version), Excellent S/N ratio. High reproducibility; Controlled by System Manager, Automatic / Manual data integration, Auto baseline correction. Spot check facility. 3D display with data storage and auto calculation of each peak at its  $\lambda_{max}$ . Sub-component evaluation. Calibration - single level, multilevel, linear / non-linear. limit test support. Track profile subtraction. Statistics CV / CI. Reproducibility check facility. Auto calculation of data from wts and dil. factors, Computer generated random no. for each report (GLP compliance). Lamp use tracking. 2 level digital user manual. Service Dialog + self- Diagnostics + Tutorial all built – in. Meets GLP. Optional IQ-OQ and 21 CFR Rule 11 certification.

## **ESSENTIAL SOFTWARE FOR SCANNER**

- a) Spectrum Scanning option
- b) Scanner Quantification
- c) Scanner Multi Wavelength

## 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 its 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. Price quoted should be CIP Department of Botany, University of Kerala, Kariavattom Campus, Trivandrum-695581.
7. 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.
8. **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 or 100%

through overseas DD after installation followed by certification by the CLIF, University of Kerala.

9. 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.
10. **Every tenderer should submit an Earnest Money Deposit (EMD) of Rs. 30,000/-.**
11. **Every tenderer should submit Tender fee of Rs. 2500/-.**
12. Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery and installation **should be made at the Department of Biochemistry, University of Kerala, Kariavattom campus, Trivandrum without extra cost (inclusive of documentation, demurrage, customs duty, clearance and transportation charges).** University of Kerala will provide customs duty exemption certificates if required. **Complete installation, testing and demonstration of the system and day-to-day maintenance are to be provided at site. University of Kerala will provide customs duty exemption certificates if required.**
13. **Service facility:** Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.
14. The model number, make, and a printed literature of the product shall submit positively.
15. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
16. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

17. 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.
18. **Maintenance:** A good team of service engineers, trained by the manufacturer is essential. Complete HPTLC CV should be within 2% analysis scanning. Detailed information of service engineers and their product training to be provided. AMC or CMC rates should be offered reasonably.
19. Specifications should be confirmed from the website of the manufacturer. Good service support from India is essential. Live product demo, with our samples is necessary. The same may be arranged at supplier's cost.
20. **Analysis support:** Since we deal with complex samples, support for analysis should be given by the supplier by sending their application specialist. Equipment should be future proof and manufacturer is expected to offer upgrade whenever available rather than change models.
21. **Training:** 3 levels – 3 days during installation. Subsequently at supplier's Application lab and in our lab. Please provide full details of after sales services staff and application lab. Demo of various specifications should be given by the successful bidder before placing order. A live demo nearby and analysis of our samples will have to be done by bidders at their cost. Please provide complete details of your customer support lab. in India and training charges, if any in the next three years after the installation. The winning bidder will have to prove compliance with specifications before placing order.
22. **Warranty:** Three-year comprehensive warranty, including replacing parts and service with additional 2-year AMC After sales services must be described in detail. After sales support through Application Lab is very essential.

### **Documents to be Uploaded**

- 1 Signed Compliance Matrix
- 2 Detailed Technical Brochure
- 3 Under taking of support for next 10 Years
- 4 BoQ

**The Registrar,  
University of Kerala,**