

UNIVERSITY OF DELHI SOUTH CAMPUS
Centre for Innovation in Infectious Disease Research, Education and Training (CIIDRET)

First Floor Engineering Department
New Delhi-110021
Tel.: 91-11-24115883
E-mail: vkchaudhary@south.du.ac.in

E-tender Notice

Ref. No. : UDSC/CIIDRET/VKC/2018/005

July 27, 2018

Tenders are hereby invited in two-bid system (Technical & Financial) from the manufactures or their authorized dealers for the supply **through direct import (CIF air)** of **Protein Purification Chromatography and affinity characterization system** with the components with specification given below:

Component A: SPR-BASED AFFINITY CHARACTERIZATION SYSTEM - This should have the following specifications:

- A.1 The system should be a flexible, chip-based automated surface plasmon resonance (SPR) based biosensor to allow affinity measurements. The system should provide high quality, real time kinetic data for bio-molecular reactions requiring no tags or labeling of compounds or proteins and should be able to carry out thermodynamic studies.
- A.2 The system should allow the recovery of binding partners for further analysis using MS or a MALDI-TOF. It should allow isolation and recovery of sample and integrate with the MS sample preparation and for other applications.
- A.3 The system should be capable of providing high quality kinetics ranging from high on-rates to the slow off-rates in the following range:
- | | | |
|------|---|---|
| i) | Association rate constant (k_a) range: | $1 \times 10^3 - 1 \times 10^7 \text{ M}^{-1} \text{ s}^{-1}$ |
| ii) | Dissociation rate constant (k_d) range: | $5 \times 10^{-5} - 1 \times 10^{-1} \text{ s}^{-1}$ |
| iii) | Affinity constant (K_A) range: | $1 \times 10^4 - 1 \times 10^{10} \text{ M}^{-1}$ |
- A.4 The system should allow selection of samples automatically from the vials, 96 well plates and 384 well microtiter plates. The microfluidic pathway of the system should have provision to incorporate up to four flow cells overlaid by a single sensor chip.
- A.5 The system should allow detection of samples in the range of RI 1.33-1.40, with a relative working range of as low as 10 RU or less.
- A.6 The system should have a provision for **concentration determination without the need of calibration standards for concentration analysis**. The system should have buffer selector with automatic switching between four buffers.
- A.7 The system should allow analysis of samples ranging from small organic molecules through to peptides, proteins and DNA to crude extracts, lipid vesicles and viruses, nanoparticles.
- A.8 The system should be compatible with specific chips carrying varying levels of dextran and carboxy-methylation, hydrophobic surfaces, 2D surfaces without dextran or chips with SA pre-immobilized, NTA chips, Protein A, Protein G, Protein L chips and chips for GST fusion and enhancement chemistries should also be available. Regeneration scouting kits and all buffers and plastic ware must be available with the supplier for each of these applications. Each of the applications must be proven with publications in an international peer reviewed indexed journal or applications notes.
- A.9 The system should be compatible with specific chips allowing **reversible immobilization of biotinylated molecules** supported by application notes and publications.
- A.10 The system should allow measurement of highly sensitive protein/protein interactions along with small molecule interactions without any minimum molecular weight limits, low abundance molecules, weak interactions. The system must have inbuilt protocol for solvent correction issues in case of small molecules using higher concentrations of organic solvents (DMSO) in

the sample.

- A.11 The system should have an automatic in-line reference subtraction enabled by the software to maximize the information obtained from a single run.
- A.12 The system should be able to measure the activation energy of the binding reactions.
- A.13 **The system should have special tool for immunogenicity analysis for detecting and characterizing anti-drug (protein and antibodies) antibodies by including online dissociation and neutralization before analysis on the chip.**
- A.14 The system should allow an injection volume of as less as 10 ul and flow cell volume of 0.06 ul.
- A.15 The system should allow analysis in the temperature range of 4-45°C.
- A.16 The system should have baseline noise of typically < 0.03 RU.
- A.17 The system should have baseline drifts of typically < 0.3 RU/min in the ambient temperature range of 15–35°C.
- A.18 The system should be supplied with six (6) system-compatible carboxymethylated dextran-coated chips for covalent immobilization of proteins.
- A.19 The system should be supplied with sufficient reagents for maintenance and clean up of the fluidics for 1 year.
- A.20 The system should be supplied with 1 kit each for the preparation of chips for capture of human and mouse antibodies along with 1 kit for amine-based coupling of antibodies.
- A.21 The system should be supplied with approximately 1-1.5 liter of ready-to-use degassed general-purpose buffer containing appropriate detergents for running of the equipment and 100 ml of Glycine buffer (pH 1.5) for chip regeneration.

Additional eligibility criteria for component A:

- A.22 Software upgrades should be made by the supplier as and when the new versions are released by the manufacturer / vendor at no additional cost. These softwares have to be compatible with the computer attached to the system.
- A.23 A trained operator should be provided to operate machine for 6 days a week (8 hours per day excluding lunch break) for 3 years.
- A.24 The quotation should comprise Comprehensive warranty and application support for 5 years.
- A.25 The price quotation should be a sum of the cost of the sub-components of the affinity measurement system and initial 5 years Comprehensive Maintenance Contract (CMC). It may be noted that for the direct import, the institution is eligible for concessional customs duty as also mentioned in A.35.
- A.26 The price quotation should also include CMC (labor and parts) beyond 5 years of original warranty mentioned above. This CMC should be quoted for each year and to be paid in 6 monthly installments. The quoted price structure may be a criterion for price comparison. It may be noted that the Institution is eligible for both concessional GST and concessional Custom duty. **The price quote should keep this in the view. However, unrealistically high cost may lead to non-consideration of the whole offer despite being L1. The buyer is not obliged to go for CMC beyond initial 5 years. Further, At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.**
- A.27 The system should come with appropriate computer with display monitor and should carry warranty as for the main machine. The same can be supplied locally.
- A.28 The distributor should attach original manufacturer's authorization certificate. The certificate should indicate about the responsibility during the warranty period (first five years). The certificate should also indicate about the responsibility of the OEM during the warranty period in case there is change in the authorized distributor/agent/subsidiary.
- A.29 The supplier should also provide a list of at least three users (name, phone number and email addresses) in India for the same or similar machine along with satisfaction reports from the existing users about the performance of the machine, quality of results, maintenance and application support.

- A.30 The breakdown of the equipment should be attended within 24 hours of the call (on site) and to be fixed in maximum 72 hours, beyond which, the time taken for the repair will be added to the warranty period.
- A.31 A latest price list of **various accessories not covered under CMC** but required for the uninterrupted running of the system should be attached.
- A.32 A latest price list of analysis chip, capture reagents, maintenance kits, buffers etc. should be attached.
- A.33 A discount structure for the items listed in A.31-A.32 should be attached. The above discount structure should remain valid for 5 years on the prevailing original list price at the time of placing order of that item.
- A.34 A total purchase of approximately Rs. 25 lakhs (after discount) of such items listed in A.31-A.32 is expected in 5 years and the discount structure may be a criterion for price comparison. However, unrealistically low discount may lead to non-consideration of the whole offer despite being L1.
- A.35 Custom clearance will be undertaken by University of Delhi South campus.

Component B: PROTEIN PURIFICATION CHROMATOGRAPHY SYSTEM

- B.1 The system should be an inert biocompatible system allowing purification from microgram to gram scale and operational in cold room.
- B.2 The system should allow flow rate from 1 ul/min to 25 ml/min without addition or removal of any tubing or re-plumbing and should sustain a pressure limit of 20 MPa.
- B.3 The system should have two primary inlets for buffer selection, each with a provision to be sub-divided into up to 7 inlets.
- B.4 The system should have a mixer chamber with a magnetic stirrer with a mixer volume of 0.6 ml.
- B.5 Other mixers of 1.4 ml or 5 ml or similar volumes should be available in the catalogue to be procured later at discounted rates as per B.34.
- B.6 The system should allow gradient flow rate ranging from 0.1 to 25 ml/min.
- B.7 The UV-monitor should allow simultaneous detection of up to three wavelengths between 190 – 700 nm without changing the lamp or light source.
- B.8 The flash lamp should not require any warm up or heat up time and should provide optical fiber based delivery of light to the detector along with automatic switch off mechanism in stand-by mode.
- B.9 The detector should have sensitivity of up to four decimal places with an absorbance range from -6 to +6 AU and an optical path length of 2 mm.
- B.10 The system should come with one flow cell with 2 mm path length.
- B.11 Other flow cells of 0.5 and 10 mm should be available in the catalogue to be procured later at discounted rates as per B.34.
- B.12 The system should allow measurement of Conductivity between the ranges of 0.01 mS/cm up to 999.9 mS/cm and should sustain an operating pressure of up to 5 MPa.
- B.13 The system should have automated sample pump allowing continuous flow with low pulsation at a flow rate of 1 ul to 50 ml/min and should sustain a pressure limit of 10 MPa. It should also have a purge valve to remove air.
- B.14 The system should have a column valve with integrated bypass and reverse-flow functions and should allow connection of up to five columns with a provision for automatic column switching.
- B.15 The outlet valve should have a provision for at least 3 outlets (for waste, fraction collection and 1 additional outlet).
- B.16 The system controlling software should allow watch functions for peak fractionation and unattended operations.
- B.17 The system should allow easy media screening with integrated bypass, up and down-flow options and pressure flow control with integrated pressure sensors.

- B.18 The system should come with pH probe, which should allow recording of pH with an accuracy of ± 0.1 pH unit within the pH range of 2 to 12.
- B.19 The system should allow pH-flow through electrode and flow-restrictor to bypass or incorporated in the flow path without need for re-plumbing and should have separate syringe port for the calibration of the pH electrode within the system. The system should allow delay volumes during fractionation to be calculated automatically.
- B.20 The system should be supplied with a suitable fraction collector (round) to allow collection of fractions of 0.1 to 50 ml volume (with racks to hold tubes of 12 mm and 10-18 mm diameter) with mechanism to have minimized spillage of sample during the change of tubes.
- B.21 There should be a provision for attaching a more flexible fraction collector to collect atleast 500 fractions in deep-well plates, tubes, and bottles with collection in row-by-row, column-by-column, or in serpentine mode and the same with accessories should be available in the catalogue to be procured later at discounted rates as per B.34.
- B.22 System should have the option to attach a communication box for use with different detectors.
- B.23 The system cost should include all types of connectors, filters (buffer, in line), and ferrules, Teflon and peek tubings in the form of two nos. of accessory box.
- B.24 The system cost should include sample loops (1ml-two, 2 ml-two, 10 ml-one, 50 ml-two).
- B.25 The system and software should be fully GLP/GMP compatible and 21 CFR part 11 compliant.

Additional eligibility criteria for component B:

- B.26 The quote should comprise Comprehensive warranty and application support for 5 years.
- B.27 Software upgrades should be made by the supplier as and when the new versions are released by the manufacturer / vendor at no additional cost. These softwares have to be compatible with computer attached with the system
- B.28 The price quote should be a sum of the cost of the sub-components of Protein purification system and initial 5 years Comprehensive Maintenance Contract (CMC).
- B.29 The price quotation should also include CMC (labor and parts) beyond 5 years of original warranty mentioned above. This CMC should be quoted for each year and to be paid in 6 monthly installments. The quoted price structure may be a criterion for price comparison. It may be noted that the Institution is eligible for both concessional GST and concessional Custom duty. **The price quote should keep this in the view. However, unrealistically high cost may lead to non-consideration of the whole offer despite being L1. The buyer is not obliged to go for CMC beyond initial 5 years. Further, At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.**
- B.30 The system should come with appropriate computer with display monitor and should carry warranty as for the main machine. The same can be supplied locally.
- B.31 The distributor should attach original manufacturer's authorization certificate. The certificate should indicate about the responsibility during the warranty period. The certificate should also indicate about the responsibility of the OEM during the warranty period in case there is change in the authorized distributor/agent/subsidiary.
- B.32 The supplier should also provide a list of at least three users (name, phone number and email addresses) in India for the same or similar machine along with satisfaction reports from the existing users about the performance of the machine, quality of results, maintenance and application support.
- B.33 The breakdown of the equipment should be attended within 24 hours of the call (onsite) and to be fixed in maximum 72 hours beyond which the time taken for the repair will be added to the warranty period.
- B.34 A latest price list of various accessories including other types of flow cells, fraction collector, tubing and connectors etc. not covered under CMC but required for the uninterrupted running of the system should be attached.
- B.35 A latest price list of empty columns (low, medium and high pressure) and their accessories for laboratory-scale (1 ml to 2 L packed gel volume) purification should be attached.

- B.36 A latest price list of pre-packed columns for laboratory-scale purification should be attached.
- B.37 A latest price list of bulk chromatography resins for laboratory-scale purification should be attached.
- B.38 A discount structure for the items listed in B.34 to B.37 should be attached. The above discount structure should remain valid for 5 years on the prevailing list price at the time of placing order of that item.
- B.39 A total purchase of approximately Rs. 25 lakhs (after discount) of such items listed in B.34-B.37 is expected in 5 years and the discounts structure may be a criterion for price comparison. However, unrealistically low discount may lead to non-consideration of the whole offer despite being L1.
- B.40 Custom clearance will be undertaken by University of Delhi South campus.

Terms and Conditions:

1. **The tenderers are requested not to attach any additional paper more than requested in the terms and conditions.**
2. The University of Delhi South Campus reserves the right to procure both or only one component of the system or not to buy anything.
3. The University of Delhi South Campus reserves the right to amend the contents of the tender 3 days before the closing date, therefore, prospective tenderers should check the e-procurement website (<https://eprocure.gov.in>).
4. The supplier will be responsible for installation and training for the operation and data analysis for each of the equipment.
2. The bids should be uploaded on to the e-procurement website (<https://eprocure.gov.in>) within 21 days of the date of the advertisement (latest by 17th August 2018). The Bidders/Vendors are advised to follow the instructions provided in the 'Instructions for Online Bid Submission' for the e-submission of the bids online through the Central Public Procurement Portal for e-Procurement at <https://eprocure.gov.in/eprocure/app>'.
3. Quotations have to be submitted in two bid systems (Technical and financial). The First part 'Technical bid, should consists of all technical details and supporting documents with terms and conditions. A compliance sheet (in the attached format; Annexure I) must be filled by the vendor against each point and giving reference of the same (page no., line no.) in the supporting company brochure/document. **The technical bid should contain a copy of the format of the price bid along with the model number and part numbers of quoted equipment and accessories "without prices."**
4. The second part 'Financial bid', should contain item-wise pricing of items and/or the discount structure as mentioned in the technical bid. The Financial Quotations should contain price of the equipment, discount if any, packaging and forwarding charges, air freight and insurance charges (in the attached format; Annexure II). The price quoted should be up to Delhi airport in USD/Euro and customs duty exemption certificates would be provided by the buyer.
5. Authorization certificate from the manufacturer should be attached/uploaded. The certificate should indicate about the responsibility during the warranty period. The certificate should also indicate about the responsibility of the OEM during the warranty period in case there is change in the authorized distributor/agent/subsidiary.
6. The equipment will be used for teaching and basic research in the University of Delhi. Maximum special discounts/rebates should be indicated in the offer.
7. The price bids shall remain valid for a period of 90 (ninety) days from the date of opening of technical bid. Delhi University reserves the right to reject a bid valid for a period shorter than 90 days as non-responsive without any correspondence.
8. The delivery period should be within 2 months from the date of receipt of order. Bids offering delivery period beyond stipulated time period may be treated as non-responsive and may be rejected. Permission must be sought for unavoidable delays.
9. **Manual bids shall not be accepted. Do not submit manual bids by hand.**
10. Payment will be made either by electronic transfer as per RBI within 30 days of satisfactory installation of the equipment by the supplier/the manufacturing company OR through Letter of

Credit as per details below. The supplier/OEM will be responsible for the installation and providing service support during the warranty period.

11. Payment will be made by 100 % Letter of credit against order acknowledgement submitted by the successful bidder. Letter of credit is required to be confirmed and irrevocable and to be 100% of which 90% with Order acknowledge & balance 10 % after satisfactory installation within 45 days.
12. Letter of Credit should be valid for 90 days for shipment and 21 days after shipment for negotiation of documents.
13. **In case of Letter of credit, all types of bank charges within India or abroad will have to be borne by supplier. If charged to the buyer, the same will have to be reimbursed by the seller to the university.**
14. **Payment terms will be negotiated as per University rules.**
15. The quoted discount structure for accessories and consumables for both equipment should be valid for 5 years on latest prevailing published original price list, and a separate comparison will be prepared for items intended to be used during the five years.
16. **The vendors can quote for individual components. The technically compliant tenders for each item will be compared for price offered and the appropriate tenderer offering the best price for one equipment or for both the equipment (with special discount for bundle) will be selected in a manner that the University buys both equipment at the best price.**
17. **The institute reserves the right to order equipment with better quality and suitability over lower price and to accept or reject any or all quotations without assigning reasons thereof. The tender may also be cancelled without providing reasons.**
18. EMD of Rs. 4,40,000 (Four lacs and forty thousand only) for those quoting both components A and B; Rs. 3,60,000 (Three lacs and sixty thousand only) for those quoting component A only and Rs. 80,000 (Eighty thousand only) for those quoting component B only, **payable to "Director, UDSC" at New Delhi, in the form of bank draft/bankers cheque/ or Bank Guarantee drawn on a schedule bank in India in a sealed cover with tender number mentioned and without any additional papers** should reach **Professor Vijay K Chaudhary**, Director, CIIDRET, University of Delhi South campus, First Floor Engineering Department Building, New Delhi-110021 before the end date and time of bid submission. The validity of **bank draft/bankers cheque/ bank Guarantee should be for six months from the date of submission.** The tender without EMD (original hard copy) may not be considered. Bidder, however, have to also attach scanned copies of EMD proof along with their e-tender.
19. Unsuccessful tenderer's earnest money will be returned to them **without any interest**, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.
20. Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The successful tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser, if it fails to furnish the required performance security within the specified period.
21. Within fifteen (15) days from date of the issue of notification of award by the Purchaser/Consignee, the supplier (successful tenderer), shall furnish **performance security** to the Purchaser/Consignee for an amount equal to five percent (5 %) of the total value of the contract, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations, initially valid for a period of minimum 62 months from the date of Notification of Award.
22. The Performance security shall be denominated in Indian Rupees and will be calculated at the exchange rate on the day of placing the order. It shall be in any one of the forms namely, Account Payee Demand Draft/Bankers cheque (for Delhi) or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form in favor of the **Director, University of Delhi South Campus.** The validity of the Fixed Deposit receipt or Bank Guarantee will be for a period up to sixty (60) days beyond

- Warranty Period. This period will be extended if the duration of Warranty is extended due delayed repair of the machines.
23. In the event of any failure /default of the supplier with or without any quantifiable loss to the government including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma, the amount of the performance security is liable to be forfeited.
 24. In the event of any amendment issued to the contract, the supplier shall, within fifteen (15) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.
 25. **CMC (labor and parts) beyond 5 years of original warranty mentioned above should be quoted in the offer.** This CMC should be quoted for each year and to be paid in 6 monthly installments. The quoted price structure may be a criterion for price comparison and unrealistically high cost may lead to non-consideration of the whole offer despite being L1. However, the buyer is not obliged to go for CMC beyond initial 5 years. **At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.**
 26. The supplier shall approach the purchaser for getting into additional Annual Comprehensive Maintenance Contract (beyond initial 5 years), 3 (three) months prior to the completion of original Warranty Period. The new CMC will commence from the date of expiry of the Warranty Period. However, the buyer is not obliged to go for warranty beyond initial five years.
 27. The Purchaser/Consignee will release the Performance Security **without any interest** to the supplier on completion of the supplier's all contractual obligations including the warranty obligations. However, in case buyer decides to go for CMC cover beyond initial five years, the same will be released after the receipt of performance security in the form of Account Payee Demand Draft/Bankers cheque (for Delhi) or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India for CMC security cover (beyond initial 5 years) in favor of **Director, University of Delhi South Campus.**
 28. Breakdown penalty: The breakdown of the equipment should be attended within 24 hours of the call and to be fixed in maximum 72 hours beyond which the time (days) taken for the repair will be added to the warranty period.
 29. For any query, please contact Professor Vijay K Chaudhary, Director, CIIDRET, University of Delhi South campus at vkchaudhary@south.du.ac.in.


Professor Vijay K Chaudhary
Director, CIIDRET

निदेशक / Director
नवपरिवर्तन केन्द्र - संक्रामक रोग अनुसंधान, शिक्षा और प्रशिक्षण
Center for Innovation in Infectious Disease
Research, Education & Training (CIIDRET)
दिल्ली विश्वविद्यालय दक्षिण परिसर, नई दिल्ली - ११००२१
University of Delhi South Campus, New Delhi-110021

Annexure I

Sheet for technical compliance for Protein affinity characterization and chromatography purification system

Component A: SPR-based affinity measurement system			
S.No.	Description	Compliance (Yes/No)	Remarks to support 100 % compliance (Catalogue page no) or to describe deviation
A.1	The system should be a flexible, chip-based automated surface plasmon resonance (SPR) based biosensor to allow affinity measurements. The system should provide high quality, real time kinetic data for bio-molecular reactions requiring no tags or labeling of compounds or proteins and should be able to carry out thermodynamic studies.		
A.2	The system should allow the recovery of binding partners for further analysis using MS or a MALDI-TOF. It should allow isolation and recovery of sample and integrate with the MS sample preparation and for other applications.		
A.3	The system should be capable of providing high quality kinetics ranging from high on-rates to the slow off-rates in the following range: (I) Association rate constant (k_a) range: $1 \times 10^3 - 1 \times 10^7 \text{ M}^{-1} \text{ s}^{-1}$ (II) Dissociation rate constant (k_d) range: $5 \times 10^{-5} - 1 \times 10^{-1} \text{ s}^{-1}$ (III) Affinity constant (K_A) range: $1 \times 10^4 - 1 \times 10^{10} \text{ M}^{-1}$		
A.4	The system should allow selection of samples automatically from the vials, 96 well plates and 384 well microtiter plates. The microfluidic pathway of the system should have provision to incorporate up to four flow cells overlaid by a single sensor chip.		
A.5	The system should allow detection of samples in the range of RI 1.33-1.40, with a relative working range of as low as 10 RU or less.		
A.6	The system should have a provision for concentration determination without the need of calibration standards for concentration analysis . The system should have buffer selector with automatic switching between four buffers.		
A.7	The system should allow analysis of samples ranging from small organic molecules through to peptides, proteins and DNA to crude extracts, lipid vesicles and viruses, nanoparticles.		
A.8	The system should be compatible with specific chips carrying varying levels of dextran and carboxy-methylation, hydrophobic surfaces, 2D surfaces without dextran or chips with SA pre-immobilized, NTA chips, Protein A, Protein G, Protein L chips and chips for GST fusion and enhancement chemistries should also be available. Regeneration scouting kits and all buffers and plastic ware must be available with the supplier for each of these applications. Each of the applications must be proven with publications in an international peer reviewed indexed journal or applications notes.		

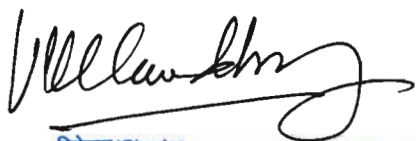
A.9	The system should be compatible with specific chips allowing reversible immobilization of biotinylated molecules supported by application notes and publications.		
A.10	The system should allow measurement of highly sensitive protein/protein interactions along with small molecule interactions without any minimum molecular weight limits, low abundance molecules, weak interactions. The system must have inbuilt protocol for solvent correction issues in case of small molecules using higher concentrations of organic solvents (DMSO) in the sample.		
A.11	The system should have an automatic in-line reference subtraction enabled by the software to maximize the information obtained from a single run.		
A.12	The system should be able to measure the activation energy of the binding reactions.		
A.13	The system should have special tool for immunogenicity analysis for detecting and characterizing anti-drug (protein and antibodies) antibodies by including online dissociation and neutralization before analysis on the chip.		
A.14	The system should allow an injection volume of as less as 10 ul and flow cell volume of 0.06 ul.		
A.15	The system should allow analysis in the temperature range of 4-45°C.		
A.16	The system should have baseline noise of typically < 0.03 RU.		
A.17	The system should have baseline drifts of typically < 0.3 RU/min in the ambient temperature range of 15–35°C.		
A.18	The system should be supplied with six (6) system-compatible carboxymethylated dextran-coated chips for covalent immobilization of proteins.		
A.19	The system should be supplied with sufficient reagents for maintenance and clean up of the fluidics for 1 year.		
A.20	The system should be supplied with 1 kit each for the preparation of chips for capture of human and mouse antibodies along with 1 kit for amine-based coupling of antibodies.		
A.21	The system should be supplied with approximately 1-1.5 liter of ready-to-use degassed general-purpose buffer containing appropriate detergents for running of the equipment and 100 ml of Glycine buffer (pH 1.5) for chip regeneration.		
A.22	Software upgrades should be made by the supplier as and when the new versions are released by the manufacturer / vendor at no additional cost. These softwares have to be compatible with the computer attached to the system.		
A.23	A trained operator should be provided to operate machine for 6 days a week (8 hours per day excluding lunch break) for 3 years.		
A.24	The quotation should comprise Comprehensive warranty and application support for 5 years.		

A.25	The price quotation should be a sum of the cost of the sub-components of the affinity measurement system and initial 5 years Comprehensive Maintenance Contract (CMC). It may be noted that for the direct import, the institution is eligible for concessional customs duty as also mentioned in A.35.		
A.26	The price quotation should also include CMC (labor and parts) beyond 5 years of original warranty mentioned above. This CMC should be quoted for each year and to be paid in 6 monthly installments. The quoted price structure may be a criterion for price comparison. It may be noted that the Institution is eligible for both concessional GST and concessional Custom duty. The price quote should keep this in the view. However, unrealistically high cost may lead to non-consideration of the whole offer despite being L1. The buyer is not obliged to go for CMC beyond initial 5 years. Further, At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.		
A.27	The system should come with appropriate computer with display monitor and should carry warranty as for the main machine. The same can be supplied locally.		
A.28	The distributor should attach original manufacturer's authorization certificate. The certificate should indicate about the responsibility during the warranty period (first five years). The certificate should also indicate about the responsibility of the OEM during the warranty period in case there is change in the authorized distributor/agent/subsidiary.		
A.29	The supplier should also provide a list of at least three users (name, phone number and email addresses) in India for the same or similar machine along with satisfaction reports from the existing users about the performance of the machine, quality of results, maintenance and application support.		
A.30	The breakdown of the equipment should be attended within 24 hours of the call (on site) and to be fixed in maximum 72 hours, beyond which, the time taken for the repair will be added to the warranty period.		
A.31	A latest price list of various accessories not covered under CMC but required for the uninterrupted running of the system should be attached.		
A.32	A latest price list of analysis chip, capture reagents, maintenance kits, buffers etc. should be attached.		
A.33	A discount structure for the items listed in A.31-A.32 should be attached. The above discount structure should remain valid for 5 years on the prevailing original list price at the time of placing order of that item.		
A.34	A total purchase of approximately Rs. 25 lakhs (after discount) of such items listed in A.31-A.32 is expected in 5 years and the discount structure may be a criterion for price comparison. However, unrealistically low discount may lead to non-consideration of the whole offer despite being L1.		

A.35	Custom clearance will be undertaken by University of Delhi South campus.		
Component B: Protein Purification system			
S.No.	Description	Compliance (Yes/No)	Remarks to support 100 % compliance (Catalogue page no) or to describe deviation
B.1	The system should be an inert biocompatible system allowing purification from microgram to gram scale and operational in cold room.		
B.2	The system should allow flow rate from 1 ul/min to 25 ml/min without addition or removal of any tubing or re-plumbing and should sustain a pressure limit of 20 MPa.		
B.3	The system should have two primary inlets for buffer selection, each with a provision to be sub-divided into up to 7 inlets.		
B.4	The system should have a mixer chamber with a magnetic stirrer with a mixer volume of 0.6 ml.		
B.5	Other mixers of 1.4 ml or 5 ml or similar volumes should be available in the catalogue to be procured later at discounted rates as per B.34.		
B.6	The system should allow gradient flow rate ranging from 0.1 to 25 ml/min.		
B.7	The UV-monitor should allow simultaneous detection of up to three wavelengths between 190 – 700 nm without changing the lamp or light source.		
B.8	The flash lamp should not require any warm up or heat up time and should provide optical fiber based delivery of light to the detector along with automatic switch off mechanism in stand-by mode.		
B.9	The detector should have sensitivity of up to four decimal places with an absorbance range from -6 to +6 AU and an optical path length of 2 mm.		
B.10	The system should come with one flow cell with 2 mm path length.		
B.11	Other flow cells of 0.5 and 10 mm should be available in the catalogue to be procured later at discounted rates as per B.34.		
B.12	The system should allow measurement of Conductivity between the ranges of 0.01 mS/cm up to 999.9 mS/cm and should sustain an operating pressure of up to 5 MPa.		
B.13	The system should have automated sample pump allowing continuous flow with low pulsation at a flow rate of 1 ul to 50 ml/min and should sustain a pressure limit of 10 MPa. It should also have a purge valve to remove air.		
B.14	The system should have a column valve with integrated bypass and reverse-flow functions and should allow connection of up to five columns with a provision for automatic column switching.		
B.15	The outlet valve should have a provision for at least 3 outlets (for waste, fraction collection and 1 additional outlet).		
B.16	The system controlling software should allow watch functions for peak fractionation and unattended operations.		

B.17	The system should allow easy media screening with integrated bypass, up and down-flow options and pressure flow control with integrated pressure sensors.		
B.18	The system should come with pH probe, which should allow recording of pH with an accuracy of ± 0.1 pH unit within the pH range of 2 to 12.		
B.19	The system should allow pH-flow through electrode and flow-restrictor to bypass or incorporated in the flow path without need for re-plumbing and should have separate syringe port for the calibration of the pH electrode within the system. The system should allow delay volumes during fractionation to be calculated automatically.		
B.20	The system should be supplied with a suitable fraction collector (round) to allow collection of fractions of 0.1 to 50 ml volume (with racks to hold tubes of 12 mm and 10-18 mm diameter) with mechanism to have minimized spillage of sample during the change of tubes.		
B.21	There should be a provision for attaching a more flexible fraction collector to collect atleast 500 fractions in deep-well plates, tubes, and bottles with collection in row-by-row, column-by-column, or in serpentine mode and the same with accessories should be available in the catalogue to be procured later at discounted rates as per B.34.		
B.22	System should have the option to attach a communication box for use with different detectors.		
B.23	The system cost should include all types of connectors, filters (buffer, in line), and ferrules, Teflon and peek tubings in the form of two nos. of accessory box.		
B.24	The system cost should include sample loops (1ml-two, 2 ml-two, 10 ml-one, 50 ml-two).		
B.25	The system and software should be fully GLP/GMP compatible and 21 CFR part 11 compliant.		
B.26	The quote should comprise Comprehensive warranty and application support for 5 years.		
B.27	Software upgrades should be made by the supplier as and when the new versions are released by the manufacturer / vendor at no additional cost. These softwares have to be compatible with computer attached with the system		
B.28	The price quote should be a sum of the cost of the sub-components of Protein purification system and initial 5 years Comprehensive Maintenance Contract (CMC).		
B.29	The price quotation should also include CMC (labor and parts) beyond 5 years of original warranty mentioned above. This CMC should be quoted for each year and to be paid in 6 monthly installments. The quoted price structure may be a criterion for price comparison. It may be noted that the Institution is eligible for both concessional GST and concessional Custom duty. The price quote should keep this in the view. However, unrealistically high cost may lead to non-consideration of the whole offer despite being L1. The buyer is not obliged to go for CMC beyond initial 5 years. Further, At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.		

B.30	The system should come with appropriate computer with display monitor and should carry warranty as for the main machine. The same can be supplied locally.		
B.31	The distributor should attach original manufacturer's authorization certificate. The certificate should indicate about the responsibility during the warranty period. The certificate should also indicate about the responsibility of the OEM during the warranty period in case there is change in the authorized distributor/agent/subsidiary.		
B.32	The supplier should also provide a list of at least three users (name, phone number and email addresses) in India for the same or similar machine along with satisfaction reports from the existing users about the performance of the machine, quality of results, maintenance and application support.		
B.33	The breakdown of the equipment should be attended within 24 hours of the call (onsite) and to be fixed in maximum 72 hours beyond which the time taken for the repair will be added to the warranty period.		
B.34	A latest price list of various accessories including other types of flow cells, fraction collector, tubing and connectors etc. not covered under CMC but required for the uninterrupted running of the system should be attached.		
B.35	A latest price list of empty columns (low, medium and high pressure) and their accessories for laboratory-scale (1 ml to 2 L packed gel volume) purification should be attached.		
B.36	A latest price list of pre-packed columns for laboratory-scale purification should be attached.		
B.37	A latest price list of bulk chromatography resins for laboratory-scale purification should be attached.		
B.38	A discount structure for the items listed in B.34 to B.37 should be attached. The above discount structure should remain valid for 5 years on the prevailing list price at the time of placing order of that item.		
B.39	A total purchase of approximately Rs. 25 lakhs (after discount) of such items listed in B.34-B.37 is expected in 5 years and the discounts structure may be a criterion for price comparison. However, unrealistically low discount may lead to non-consideration of the whole offer despite being L1.		
B.40	Custom clearance will be undertaken by University of Delhi South campus.		

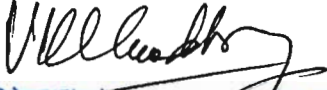


निदेशक / Director
नवपरिवर्तन केन्द्र - संक्रामक रोग अनुसंधान, शिक्षा और प्रशिक्षण
Center for Innovation in Infectious Disease
Research, Education & Training (CHDRET)
दिल्ली विश्वविद्यालय दक्षिण परिसर, नई दिल्ली - ११००२९
University of Delhi South Campus, New Delhi-110021

Annexure II

Format for Price Bid for the supply of Protein affinity characterization and chromatography purification system


COMPONENT A: SPR-BASED AFFINITY CHARACTERIZATION SYSTEM			
S. No.	Item	Price (Currency)	
1 (A)	Cost of component A including consumables listed in the technical requirement at point A.18, A.19, A.20, and A.21 and 5 years CMC, and one trained manpower for 3 years Tenderer should provide part no and quantities for each item and may quote individual or consolidated final FOR/CIF (Air freight) cost.		
	Packaging and forwarding, Air Freight and Insurance		
Grand Total for A (CIF, Delhi Airport)/ FOR UDSC, New Delhi			
2 (A)	CMC and application support beyond 5 years of initial Warranty	Year 1	
		Year 2	
		Year 3	
		Year 4	
		Year 5	
	Total cost for CMC beyond 5 years ^{&}		
3(A)	Discount on price list for items as requested in A.31 ^{&}		
4(A)	Discount on price list for items as requested in A.32 ^{&}		
COMPONENT B: PROTEIN PURIFICATION CHROMATOGRAPHY SYSTEM			
S. No.	Item	Price (Currency)	
1(B)	Cost of component B including accessories as listed in B.23 and B.24 and 5 years CMC Tenderer should provide part no and quantities for each item and may quote individual or consolidated final FOR/CIF (Air freight) cost.		
	Packaging and forwarding, Air Freight and Insurance		
Grand Total for B (CIF, Delhi Airport)/ FOR UDSC, New Delhi			
2(B)	CMC and application support beyond 5 years of initial Warranty	Year 1	
		Year 2	
		Year 3	
		Year 4	
		Year 5	
	Total cost for CMC beyond 5 years ^{&}		
3(B)	Discount on price list for items as requested in B.34 ^{&}		
4(B)	Discount on price list for items as requested in B.35 ^{&}		
5(B)	Discount on price list for items as requested in B.36 ^{&}		
6(B)	Discount on price list for items as requested in B.37 ^{&}		
	Packaging and forwarding, Air Freight and Insurance		
Grand Total for B (CIF, Delhi Airport)/ FOR UDSC, New Delhi			


 निदेशक / Director
 नवपरिवर्तन केन्द्र - संक्रामक रोग अनुसंधान, शिक्षा और प्रशिक्षण
 Center for Innovation in Infectious Disease
 Research, Education & Training (CIIDRET)
 दिल्ली विश्वविद्यालय दक्षिण परिसर, नई दिल्ली - 110029
 University of Delhi South Campus, New Delhi-110021

TENDERER MAY QUOTE SPECIAL PRICING FOR SUPPLY OF BUNDLE OF BOTH of THE EQUIPMENT WITH SPECIFICATIONS AS DESCRIBED FOR THE INDIVIDUAL EQUIPMENT.	
Item	Price (Currency)
Cost of component A including consumables listed in the technical requirement at point A.18, A.19, A.20, and A.21 and 5 years CMC, and one trained manpower for 3 years	
Packaging and forwarding, Air Freight and Insurance	
Cost of component B including accessories as listed in B.23 and B.24 and 5 years CMC	
Packaging and forwarding, Air Freight and Insurance	
Special Pricing (CIF Air) for the supply of both components.	
Grand Total for component A and B (wherever necessary)	

***All cost should be without added Taxes.** It may be noted that the University of Delhi is eligible for both concessional GST and concessional Custom duty. But, the applicable taxes/duties should be mentioned at the current prevailing rates keeping in view the current exemptions for the University of Delhi. The custom clearance will be done by the University.

***This is only for cost comparisons.** The identification numbers are from technical specification table. The initial order may not include these items. The most recent price list should be attached. A total purchase of consumables for approximately Rs. 25 lakhs (after discount) for items listed in technical specification A.31-A.32 to be used with SPR-based **affinity characterization system**, and a total purchase of consumables for approximately Rs. 25 lakhs (after discount) for items listed in technical specification B.34, B.35, B.36, and B.37 to be used with **Protein Purification system** is expected in 5 years and the discounts structure may be a criterion for price comparison. **At the time of offering the CMC beyond initial 5 years or for requirement of items listed in the price list, the supplier may quote a new price of this additional CMC in foreign currency/Indian Rupee, which could be lower than quoted in the original tender.**


 निदेशक / Director
 नवपरिवर्तन केन्द्र - संक्रामक रोग अनुसंधान, शिक्षा और प्रशिक्षण
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 दिल्ली विश्वविद्यालय दक्षिण परिसर, नई दिल्ली - 110029
 University of Delhi South Campus, New Delhi-110029