

**REGIONAL CENTRE FOR BIOTECHNOLOGY**  
**180, UDYOG VIHAR, PHASE-I, GURGAON**  
**(SCHEDULE-'A')**

S.NO. OF TENDER : \_\_\_\_\_  
FILE NO. : RCB/GTN/05/12-13 (ATPC)  
Name of the party in whose Favour the Tender form has been issued : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The Executive Director,  
REGIONAL CENTRE FOR BIOTECHNOLOGY  
180, UDYOG VIHAR, PHASE-I, GURGAON

(SEAL OF THE OFFICER)

Dear Sir,

1. I/We hereby submit our tender for the \_\_\_\_\_  
\_\_\_\_\_
2. I/WE now enclosing herewith the Bank Guarantee/D.D. No..... dated..... for **Rs.10,00,000/- or USD 20,000/-** in favour of the "EXECUTIVE DIRECTOR, RCB" towards EMD/Bid Security. (TENDERS NOT ACCOMPANIED WITH EMD/BID SECURITY ALONGWITH THE TECHNO-COMMERCIAL BID SHALL BE SUMMARILY REJECTED).
3. I/We have gone through all terms and conditions of the tender documents before submitting the same.
4. I/We hereby agree to all the terms and conditions, stipulated by the RCB, in this connection including delivery, warranty, penalty etc. Quotations for each group are being submitted under separate covers, and sheets and shall be considered on their face value.
5. I/We have noted that overwritten entries shall be deleted unless duly cut & re-written and initialed.
6. Tenders are duly signed (No thumb impression should be affixed).
7. I/We undertake to sign the contract/agreement, if required, within 15 (Fifteen days) from the date of issue of the letter of acceptance, failing which our/my security money deposited may be forfeited and our/my name may be removed from the list of suppliers at the RCB Gurgaon.

Yours faithfully,

**Signature of Tenderer(s)**  
**with full Address**

WITNESS \_\_\_\_\_  
WITNESS \_\_\_\_\_

NOTE:

- ALL TERMS & CONDITIONS SUCH AS TAXES ETC, HAS BEEN INDICATED IN THE QUOTATIONS FAILING WHICH IT WILL BE PRESUMED THAT THE RATES ARE INCLUSIVE OF ALL TAXES AND OTHER TERMS AND CONDITIONS ARE ALSO AS PER TENDER REQUIREMENTS.
- **Interested/Prospective Bidders may participate in the Pre-bid meeting scheduled on 11<sup>th</sup> March 2013 at 11.00 a.m. in the RCB premises.**

## **CHECK LIST FOR TERMS AND CONDITIONS**

Check list for Terms and Conditions (To be filled by the bidder and submitted alongwith the technical bid)

1. Certificate for being in business for more than 2 years \_\_\_\_\_
2. Certificate for sole ownership/partnership \_\_\_\_\_
3. Statement of financial standing from bankers \_\_\_\_\_
4. Performance report/List of organization supplied with the same equipment \_\_\_\_\_  
\_\_\_\_\_
5. Whether rates quoted included all taxes/Rate is a CIF \_\_\_\_\_
6. Whether rates are quoted as per tenders specifications \_\_\_\_\_
7. Authority letter from manufacturer/principal enclosed \_\_\_\_\_
8. Affidavit that the firm has not been black listed in the past by any Organization \_\_\_\_\_
9. Affidavit that the firm has no vigilance case/CBI/FEMA case pending against him/supplier(principal)  
\_\_\_\_\_
10. Affidavit that the firm is not supplying the same item at the lower rate than the rate quoted in the tender to any Govt. organization or any other Institute (Fall clause) \_\_\_\_\_
11. Quotation being submitted directly by the manufacturer or authorized distributor  
\_\_\_\_\_
12. Statement of turnover/annual report for each of the last three years are attached  
\_\_\_\_\_
13. Bid Security amount deposited is enclosed \_\_\_\_\_
14. Literature of original catalogue of the product is attached for reference \_\_\_\_\_
15. Details of Name of beneficiary, Account No. of the beneficiary, IFCS code of the bank/branch enclosed at Page No. \_\_\_\_\_
16. Comprehensive Guarantee/Warranty period for \_\_\_\_\_ and thereafter-  
Comprehensive AMC (including all spares & labour) YES/NO. (Tick the option YES/NO) for further years.
17. Compliance Statement with relation to specification \_\_\_\_\_.

**( NAME OF THE BIDDER)  
WITH SIGNATURE & SEAL**

## **SHORT TENDER NOTICE**

### REGIONAL CENTRE FOR BIOTECHNOLOGY

180, Udyog Vihar Phase-I, Gurgaon, India

RCB/GTN/05/12-13 (ATPC)

Dated 01.03.2013

### **NOTICE INVITING TENDER**

1. Sealed Tenders are invited, under **TWO-BID SYSTEM**, from reputed manufacturers / suppliers for the supply and installation of following items for Advanced Technology Platform Centre(ATPC), 181, Udyog Vihar Phase-I, Gurgaon :-

No.	Equipment	Qty.	<b><u>Tender Fee</u></b>	<b><u>Bid Security/EMD</u></b>
RCB/GTN/05/12-13 (ATPC)	<b>MALDI TOF/TOF- System with Nano LC and MALDI Spotter for Proteomic Research facility</b>	1	Rs.2000/- or USD 40	Rs.10,00,000/- or USD 20000

2. Copy of Tender document and other details may be downloaded from [www.eprocure.gov.in](http://www.eprocure.gov.in) (CPP Portal), [www.rcb.res.in](http://www.rcb.res.in) and [www.rcb.ac.in](http://www.rcb.ac.in). Sealed Bids (Two-Cover System) will be received upto 15:00 hrs on or before 21.03.2013 and opening of Tenders (Technical bids) will be on 21.03.2013 at 16:00 hrs. Tender Fee and EMD are acceptable either in Indian Rupees or in US Dollars and no other currency is acceptable.

**Interested/Prospective Bidders may participate in the Pre-bid meeting scheduled on 11<sup>th</sup> March . 2013 at 11.00 a.m. in the RCB premises.**

(SR. MANAGER)  
For & on behalf of  
**EXECUTIVE DIRECTOR**

# **REGIONAL CENTRE FOR BIOTECHNOLOGY 180, UDYOG VIHAR, PHASE-I, GURGAON**

**F. No. RCB/GTN/05/12-13 (ATPC)**

## **Technical Specifications of MALDI TOF-TOF-System with Nano LC and MALDI-Spotter for Proteomic Research facility**

A complete setup of MALDI - TOF-TOF system with high performance Nano-LC and MALDI spotter having highest quality performance in resolution, sensitivity and mass accuracy for comprehensive proteomics applications both qualitative and quantitative. The system should facilitate the identification and analysis of total complement of proteins and other biomolecules. The system should be capable of performing but not be limited to the identification of intact protein, protein/peptide identification and characterization, protein biomarker research, PTM identification and analysis, de novo sequencing, MALDI imaging, gel based and non-gel based applications, quantitative proteomics including labelled (iTRAQ, SILAC etc.) studies, MALDI ISD analysis, lipid, glycan analysis and polymer analysis. Further, the system should be capable of both positive and negative ion detection and other applications.

### **A. MALDI-TOF-TOF SYSTEM**

1. The analyzer must have a high performance solid state laser with minimum of 200 Hz frequency at MS mode and 1KHz frequency at MS/MS mode. It should allow maximum number of shots/spectral acquisitions from each sample with highest protein coverage. It should also provide an optimum geometry to enhance ionization, ion transmission and collection into the TOF tube.
2. The analyzer must include linear, reflector and precursor selected MS/MS modes with high mass resolution, sensitivity and accuracy.
3. Optimum ion optics to ensure excellent precursor ion selection, fragmentation and analyses of fragment ions.
4. The instrument must allow fragmentation of analyte molecules under user selectable gas environments and variable collision energy to enable MS/MS studies of varying range of molecules and allow identification of side chain fragment of Isobaric molecules.
5. The instrument must be capable of producing low energy unimolecular fragments laser induced dissociation as well as high frequency fragments (CID) and ISD for various applications like differentiation of isobaric amino acids and sugar analyses.
6. The system should also include an automated self-cleaning heated source/IR source to reduce matrix contamination on ion optics.
7. The instrument having a facility to accommodate 96 and 384 well plates compatible across platforms of any MALDI true TOF-TOF machine and have also compatibility with LC and auto spotters.

### ***Performance Specifications***

1. Resolution in MS and MS/MS modes for various ions spread over a wide mass range in a single spectrum which is essential for PMF and sequence analysis:
  - (a) MS resolution in linear mode should be greater than 80 to 1000 with standard substance over a broad mass range.
  - (b) MS resolution in reflector mode should be  $\geq 30,000$  in a single peak in a broad mass range of 1200 to 3700.
  - (c) Resolution in MS/MS mode should be
    - $\geq 2500$  at m/z 175
    - $\geq 4000$  at m/z 684
    - $\geq 5000$  at m/z 1056
    - $\geq 6000$  at m/z 1441
2. Sensitivity (S/N ratio) with minimum sample consumption will be essential across the typical fragmentation mass range to allow accurate analysis of fragmentation spectra for unambiguous protein sequencing and identification:

- a. MS linear mode: S/N ratio > 100:1 with  $\leq 1$  pmol of BSA.
  - b. MS reflector mode: S/N ratio > 150:1 at 25 amol of Neurotensin or Glu1-Fibrinopeptide
  - c. MS/MS mode: S/N ratio > 40:1 using 25 amol of Angiotensin or Glu1-Fibrinopeptide from the fragments of 255 to 1180.
3. Mass accuracy in MS and MS/MS modes on each and individual masses of peptides throughout entire spectrum:
    - (a) Reflector mode MS accuracy :  $\leq 5$  ppm external calibration  
 $\leq 1$  ppm internal calibration
    - (b) MS/MS mode mass accuracy should be  $\pm 0.05$  Da of relevant fragments of Glu1-Fibrinopeptide from the mass range 175 to 1141.
  4. Should be capable of accurate intact protein identification.

## B. 2D NANO LC SYSTEM

1. The 2D Nano LC system should be capable of running either in 2-dimensional separation mode or as two parallel, completely independent binary gradient HPLC systems. It should be equipped with high pressure 2D-Nano LC with two binary gradient flow pump and UV-Vis detector. The system must include an additional isocratic loading pump for sample enrichment on a trap column, before analysis on a Nano LC column.
2. The system should have working pressure tolerance of at least 10,000 psi. The flow rate for binary gradient pump must be in the range of 50nl/min to 500nl/min with flow rate accuracy minimum of 1% and gradient accuracy minimum of 1%. The retention time reproducibility must be less than 0.5%.
3. Nano LC system must include programmable injection autosampler (from 100 nl to 5  $\mu$ l with standard loop) with working pressure of 10,000 psi or better. It should have very low sample carryover (<0.05%) with very high injection reproducibility (RSD  $\leq 1\%$ ) in full loop mode. The auto sampler should be able to accommodate 96/384 micro plates as well as 48/12-sample vial rack at 4<sup>0</sup>C.
4. System should be equipped with a temperature-controlled column compartment.

## C. LC-MALDI SPOTTER

1. LC-MALDI spotting system must be fully compatible with above MALDI and 2D LC system and should be capable of depositing fractions eluting from a nano LC column onto MALDI plates with highest reproducibility with automated mixing of MALDI matrix. It should also be used as a fraction collector. LC-MALDI spotting system must support all types of commercially available 96 and 384 well plates.
2. Spotting frequency should be  $\leq 5$  sec with user adjustable 1 second steps.
3. MALDI Spotting flow rate, fraction collection rate and matrix flow rate.  
 Flow rate: 300 nL to 3 $\mu$ L/min or better  
 Fraction collection rate: up to 40  $\mu$ L/min or better  
 Matrix flow rate: 500nl to 40  $\mu$ L/min or better
4. Nano-LC and MALDI-spotter must be controlled using same software and which to be included in the offer

## D. WORKSTATION

Complete data analysis workstations of international make with latest configuration of hardware and software combination should be provided for all the applications with the following minimum features

- I. System workstation (acquisition computer) having highest possible configuration at the time of delivery with at least 32 bit/64 bit computing, 2.4 GHZ processor or better 3x 1 TB storage, 3 GB RAM or better, R/RW, DVD combo-drive, USB ports, Mouse, keyboard, Video capture, Ethernet port, PCI e and Driver kit used to interface data station and instrument, 21 inch LCD monitor or better with best resolution.
- II. Offline workstation (processing computer) having highest possible configuration at the time of delivery with at least 32/64 bit computing Core i5 3.30GHZ processor or better, 2x 1 TB storage or more, 4GB RAM or better, R/RW, DVD combo-drive, USB, Mouse, Keyboard, Ethernet ports, Built in display port video (with adapter) capable of a digital resolution of 1920 x 1200, 21 inch LCD monitor or better with best resolution available, compatibles and licensed version of Windows (professional) OS and Office (professional) and drivers with original CD.

**III.** Workstation (Nano LC and MALDI spotter) having highest possible configuration suitable for Nano LC and MALDI spotter must be quoted.

#### **E. SYSTEM CONTROL AND ANALYSIS SOFTWARE**

Comprehensive upgradable software suite for all kinds of proteomics and biomolecule applications with 2 user licences each. The below mentioned softwares should fully support both 1D and 2D Gel based and non-gel based and LC workflows without need for any additional software.

1. Data acquisition software for MALDI TOF-TOF and LC spotter software, compatible to each other. All LC MALDI features should be included in the instrument control software. Capable of automated MS to MS/MS analysis. The software must allow unattended batch processing of data files for protein identification and expression analysis from LC/MALDI experiments on line and off line. System control software must have the ability to setup multiple LC runs with fraction numbering and retention times on a single sample plate. The softwares must be able to determine the spectral quality based on an analysis of spectral noise and should terminate the MS/MS acquisition once the spectrum reaches at a user-defined quality level. MS/MS data on any one precursor must be acquired until the spectrum reaches the desired quality level, then acquisition starts on the next precursor for in-depth protein coverage per LC MALDI run in a reduced amount of time. Remote Access capability.
2. Data processing software and data base search engine compatible with MASCOT search engine from Matrix Science. A direct link to the protein annotation and classification for easy visualization, annotation and linkages of biological significance and functions to the identified proteins. Software must support PMF analysis, identification, De novo Sequencing, PTM analysis, direct link to protein classification system. Software must support the work flow like 1D, 2D gels, MDLC, LC-MALDI. It should support label based (ICAT®, iTRAQ™, SILAC™ etc.) reagents workflows. The software must be able to do biomarker profiling and identification. The software must be able to quantify and identify within a single run. It must automatically calculate False Discovery Rate.
3. Lipid profiling and analysis software.
4. Glycan profiling and analysis software.
5. Data acquisition and data processing softwares for tissue imaging.
6. MASCOT search engine for database analysis.

#### **F. PERIPHERALS AND OTHER REQUIREMENTS**

1. Online 10KVA UPS system must be quoted which is fully capable of meeting the power demand of the entire system including the main equipment, computers
2. A suitable LAN printer must be quoted.

#### **G. OPTIONAL ACCESSORIES, SPARES AND CONSUMABLES**

##### *Accessories for MALDI*

1. MALDI plate insert for 96 well plate
2. MALDI plate insert for 384 plate
3. MALDI plate holder
4. MALDI Plate cleaning kit
5. Standardization kit
6. BSA std kit
7. IGG1 Mass std. kit

##### *Accessories for Nano LC and MALDI spotter*

1. 96 well plate
2. 384 plate
3. Gas supply and compressor
4. Matrix

5. C18 RP column (15cm length, 80-100A porosity),
6. Cation exchange column

## **H. GENERAL REQUIREMENTS**

1. Company should have dedicated application specialists with a proven track record to provide onsite training and should also have application-training center in India. Company must have to provide comprehensive training our technical staffs/students/Scientists. In case of breakdown of the system company must agree to provide their facilities for use.
2. Company should have a commitment to provide all required services for relocation and reinstallation of whole system from ATPC-Gurgaon facility to ATPC-Faridabad facility, when the latter facility is ready.
3. Quoted model must have at least five installations in India and the bidders should submit a comprehensive list of installations of the same instrument with similar application. Bidder should also provide at least three user certificates from recognized research Institute/University in India where instrument has been extensively used for similar applications.
4. The equipment (including lasers) should have 60 months warranty from the date of handing over the fully functional unit to the Institute, against manufacturing defects of material and workmanship.
5. The post- warranty CMC (after 5 years) should also be quoted for spares (including lasers) and labor for the complete system, which includes all the accessories, supplied such as UPS, etc.
6. Quoted model must have at least five installation in India and vendor must provide the user list

### Note:

- The price comparison shall be made taking into account the cost of the equipment and accessories with 5 years warranty and post warranty CMC for Five years. Failure to comply this condition entails rejection of bids.
- The selected vendor should also agree to relocate and re-install the equipment at Faridabad Biotech Cluster without any additional financial implication.
- Relevant literature and publications from the original manufacturer that support the quoted model's ability to perform all of the above capabilities and specifications mentioned in the tender documents must be attached otherwise the tenders are liable to be rejected.
- The Technical Compliance Sheet and Price Compliance Sheet (provided at the end of this tender document) should be filled-in and to be submitted in the Technical Bid and in the Financial Bid respectively.

**REGIONAL CENTRE FOR BIOTECHNOLOGY  
180, UDYOG VIHAR, PHASE-I, GURGAON  
(SCHEDULE-'B')**

**Tender Ref. No.** : RCB/GTN/05/12-13 (ATPC)  
**Subject** : Purchase of MALDI TOF-TOF-System with Nano LC and MALDI-Spotter for  
Proteomic Research facility  
**Date of Pre-bid Meeting  
with Prospective Bidders** : 11<sup>th</sup> March 2013 at 11.00 a.m.(in the RCB Premises)  
**Date of Submission of Tenders** : on or before 21.03.2013 upto 3.00 p.m.  
**Date of Opening of Technical bids** : 21.03.2013 at 4.00.p.m.

1. Tender should be addressed to the Executive Director, Regional Centre for Biotechnology, Gurgaon and submitted to the Office of the Regional Centre for Biotechnology under sealed cover failing which the tender shall be rejected. Terms and conditions for supply should invariably be indicated otherwise would be taken on its face value. The rates may be quoted on separate sheets failing which the tender(s) will be rejected.
2. Mixed quotations will not be considered for acceptance.
3. **IN CASE OF THE TENDER DOUMENTS DOWNLOADED FROM THE WEBSITE :-**  
**THE BIDDERS MAY DOWNLOAD THE TENDER DOCUMENTS DIRECTLY FROM THE WEBSITE AVAILABLE AT [www.eprocure.gov.in](http://www.eprocure.gov.in) (CPP Portal), [www.rcb.ac.in](http://www.rcb.ac.in) and [www.rcb.res.in](http://www.rcb.res.in). IN SUCH CASE, THE BIDDERS ARE REQUIRED TO SUBMIT THE TENDER COST FEE OF Rs. \_\_\_\_\_ (NON-REFUNDABLE) BY WAY OF SEPARATE DEMAND DRAFT DRAWN IN FAVOUR OF EXECUTIVE DIRECTOR, RCB, AND THE SAME SHOULD ESSENTIALLY BE ENCLOSED ALONGWITH THE TECHNO COMMERCIAL BID. THE BIDDERS SHOULD SPECIFICALLY SUPERSCRIBE, "DOWNLOADED FROM THE WEBSITE" ON THE TOP LEFT CORNER OF THE OUTER ENVELOPE CONTAINING TECHNO COMMERCIAL BID & PRICE BID SEPARATELY. IN NO CASE, THE TENDER COST FEE SHOULD BE MIXED WITH EMD AMOUNT. THE TENDERS NOT FOLLOWING THE ABOVE PROCEDURE WILL BE SUMMARILLY REJECTED.**
4. TENDER SHOULD BE SUBMITTED IN TWO BID SYSTEM CONTAINING TWO PARTS AS DETAILED BELOW:  
**PART-I** :- TECHNO-COMMERCIAL BID IN ONE SEALED COVER WITH E.M.D.  
**PART-II**:- PRICE BID/FINANCIAL BID IN ONE SEALED COVER.

BOTH THE SEALED ENVELOPES SHOULD THEN BE PUT IN ONE OUTERCOVER INDICATING THEREON:

- i) Reference No. of the Tender \_\_\_\_\_
- ii) Tender regarding \_\_\_\_\_
- iii) Due date for submission of the tender : \_\_\_\_\_
- iv) Due date for opening of the tender \_\_\_\_\_
- v) Name of the firm \_\_\_\_\_

PLEASE NOTE THAT PRICES SHOULD NOT BE INDICATED IN THE TECHNO-COMMERCIAL BID. THE PRE-QUALIFICATION DOCUMENTS INCLUDING E.M.D./BID SECURITY AS REQUIRED IN THE TENDER DOCUMENT SHOULD INVARIABLY BE ACCOMPANIED WITH THE TECHNO-COMMERCIAL BID.

**NOTE :-**

- a) TENDERS ARE TO DEPOSITED IN THE TENDER BOX KEPT AT THE RECEPTION OF RCB OFFICE, AFTER ENTERING THE DETAILS OF TENDER IN THE APPROPRIATE PAGE OF THE TENDER DEPOSIT REGISTER AVAILABLE WITH THE RECEPTIONIST. THOSE TENDERS WHICH ARE DIRECTLY PUT IN THE TENDER BOX WITHOUT DIARIZING IN THE TENDER DEPOSIT REGISTER ARE LIABLE TO BE REJECTED
- b) TENDERS SUBMITTED WITHOUT FOLLOWING TWO BID SYSTEM PROCEDURE AS MENTIONED ABOVE WILL BE SUMMARILY REJECTED.

5. The tenderers should give rates, showing taxes, if any, and levies, packing forwarding and insurance charges separately giving full breakup details. THE INSTITUTE IS NOT AUTHORIZED TO ISSUE 'C/D FORMS'. PLEASE EXCLUDE CUSTOM DUTY/EXCISE DUTY COMPONENT IN RUPEE QUOTE AS THE INSTITUTE IS EXEMPTED FROM THE PAYMENT OF BASIC CUSTOMS DUTY/EXCISE DUTY. However, Excise Duty, if any, should be shown separately. Tender not confirming to this requirement shall be rejected and no correspondence will be entertained whatsoever.

6. IN CASE OF IMPORT THE TENDERERS ARE REQUIRED TO QUOTE FOB & CIF VALUE SEPARATELY DULY MENTIONING THE BREAK-UP DETAILS FOR FREIGHT & INSURANCE. THIS CONDITION SHOULD BE STRICTLY ADHERED TO, FAILING WHICH THEIR OFFER WILL BE SUMMARILY REJECTED.

The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However, the CIF/CIP prices quoted by any foreign bidder shall be loaded further as under:

a) Towards customs duty and other statutory levies –as per applicable rates with CDEC.

b) Towards custom clearance, inland transportation etc. - 2% of the CIF/CIP value.

7. **THE TENDERERS ARE REQUESTED TO SUBMIT THE FOLLOWING INFORMATION INVARIABLY TO MAKE PAYMENT THROUGH RTGS/NEFT. "The payment in pursuance of stores supplied/services rendered/work done will be made through RTGS/NEFT & charges incurred for affecting such electronic transfers will be borne by the vendors. The details of present charges for NEFT/RTGS are as under:**

**NEFT:** Up to Rs.1 lakh – Rs.5/- per transaction  
Rs. 1 lakh and above – Rs.25/- per transaction

**RTGS:** Upto Rs.5 lakh – Rs.25/- per transaction  
Rs.5 lakh and above --Rs.50/- per transaction

To make payment through above said mode, the vendor/supplier/contracts have to submit the following information invariably:

- i. Name of the Beneficiary
- ii. Account No. of the beneficiary
- iii. IFCS Code of the Bank/Branch.

8. **THIS TENDER DOCUMENT IS NON-TRANSFERABLE.**

9. The bid document should be paged and a certificate may be provided on the covering letter indicating the number of pages submitted alongwith the bid.

10. The compliance report of specification should invariably be provided indicating the fulfilment of each parameter of the specifications failing which the offer will be rejected.

11. The checklist may be furnished properly and page No. may be mentioned against each Serial Number.

12. The Tender forms be clearly filled in ink legibly or type written giving full address of the tenderers. The tenderers should quote in figures as well as in words the rates amount tendered by him/them. Any discrepancy between the figures and words, the amount written in words will prevail. Alterations/over-writings, unless legibly attested by the tenderer, shall disqualify the tenders. The tenders should be signed by the tenderer himself/themselves or his/their authorized agent on his/their behalf (Authorization may be enclosed, if applicable).

13. THE FORWARDING LETTER/UNDERTAKING (SCHEDULE 'A') DULY SIGNED SHOULD INVARIABLY BE ATTACHED ALONGWITH TECHNO-COMMERCIAL BID, FAILING WHICH THE TENDER SHALL BE REJECTED.

14. The tenderers should take care that the rates and amounts are written in such a way that interpolation is not possible, no blanks should be left which would otherwise, make the tender redundant.

15. The tender rates should be kept open/valid for a period of one year from the date the tenders are opened.
16. The tenderers shall clarify/state whether he/they are manufacturer, accredited agent or sole representative indicating principals name & address. The offers of firms who are not manufacturer or direct authorized agent will be summarily rejected. **Sub-distributors will not be accepted.**
17. Delivery prospects with definite date of delivery at destination taking into cognizance transit facilities must be indicated.
18. EACH TENDER SHOULD BE ACCOMPANIED WITH AN EMD/BID SECURITY AMOUNTING TO **Rs. (as indicated in the tender Notice)**- BY WAY OF DEMAND DRAFT/ BANK GUARANTEE DRAWN IN FAVOUR OF "EXECUTIVE DIRECTOR, RCB", (PREFERABLY BANK GUARANTEE) FAILING WHICH THE TENDER SHALL NOT BE CONSIDERED FOR ACCEPTANCE AND WILL BE OUTRIGHTLY REJECTED. IN CASE OF BANK GUARANTEE, IT SHALL BE VALID FOR ONE YEAR FROM THE DATE OF OPENING AND THE SAME SHOULD BE FROM ANY INDIAN NATIONALIZED BANK. **CASH/CHEQUE IS NOT ACCEPTABLE AT ALL.** THE EMD/BID SECURITY DEPOSITED AGAINST OTHER TENDERS CANNOT BE ADJUSTED OR CONSIDERED FOR THIS TENDER. NO INTEREST IS PAYABLE ON EMD/BID SECURITY.
19. **Liquidated Damages Clause :-**
  - (a) The delivery date as stipulated shall be strictly adhered to failing which the Institute reserves the right to refuse the supplies. The extension of the date of delivery, if required should be obtained before the expected delivery date. The Institute also reserves the right to impose liquidated damages as enumerated below or to effect risk purchase on the firm's cost and risk.
    - (i) Supply delay for one week or a part thereof - @ 0.5%
    - (ii) Supply delay for an additional week or a part thereof - @ 0.5% (subject to a ceiling of 10% of the order value.
  - (b) In case of non-supply of items within a period of two months in excess of the stipulated delivery period, the order shall be cancelled and the following penalty shall be levied at the discretion of the Executive Director, RCB, GURGAON or his authorized representative:
    - (i) Supply order of the value of Rs.100/- or below : No. Liq. Damages.
    - (ii) Supply orders which remain unexecuted and total value of non-supplied items is above Rs.10000/-: @ 10% and/or administrative action, as deemed fit shall be taken against the defaulter.
20. **SOFT WARE AND HARDWARE UPGRADATION**  
**The selected firm for the supply of tendered item will have to provide free up-gradation of software (all update & upgrades) upto 5 years from the date of satisfactory installation.**
21. Rates quoted should be valid for ONE YEAR from the date of opening of tender.
22. THE TENDERERS MAY BE REQUIRED TO DEMONSTRATE THE QUOTED MODEL OF THE EQUIPMENT DURING THE TECHNICAL EVALUATION, IF REQUIRED, FAILING WHICH THEIR BIDS/OFFER SHALL BE REJECTED. The firms are intimated that they should get ready for demonstration and only one-week time will be provided for arrangement of demonstration and no request for extending time for demonstration will be entertained. Failure to demonstrate, their offer will be summarily rejected.
23. Any other statutory levy imposed by the Govt. of India from time to time will be authorized on demand with adequate proof thereof will be paid extra.
24. Force majeure will be accepted on adequate proof thereof.
25. The Executive Director, RCB, Gurgaon shall be the final authority to reject full or any part of the supply which is not confirming to the specification and other terms and conditions.
26. No payment shall be made for rejected Stores. Rejected items must be removed by the tenderers within two weeks of the date of rejection at their own cost and replace immediately. In case these are not removed, these will be auctioned at the risk and responsibility of the suppliers without any further notice.
27. The Executive Director, RCB, reserves the right to cancel/reject full or any part of the tender which do not fulfil the conditions stipulated in the tender.
28. **Tenderers submitting tenders would be deemed to have considered and accepted all the terms and conditions. No enquiries, verbal or written, shall be entertained in respect of acceptance or rejection of the tender.**
29. TENDER MAY BE REJECTED IF THE COPY OF VALUE ADDED TAX (VAT) REGISTRATION IS NOT FURNISHED (IF APPLICABLE).

30. The quantity shown in the tender can be **increased or decreased** to any extent depending upon the actual requirement.
31. Any action on the part of the tenderer to influence anybody in the Centre, will be taken as an offence, he will not be allowed to participate in the tender enquiry and their offer will not be considered.
32. **Material confirming to the specifications should be quoted. Original Catalogue, Leaflets, literatures with full technical details should invariably be attached along with their offer, failing which their offer will be summarily rejected.**
33. **THE TENDERERS MUST QUOTE THEIR MODEL STRICTLY AS PER TENDER SPECIFICATIONS.**
34. Genuine equipments and instruments etc., should be supplied. Tenderers should indicate the source of supply i.e. name & address of the manufacturers from whom the items are to be imported, country of origin, country of Shipment etc.
35. The quoted equipment should preferably be of Indian/International standards.
36. The tenderers are required to quote the mode of shipment by Air/Sea/ Airport Parcel and should give separate breakup of freight and Insurance Charges.
37. Supply of equipment means-Supply, Installation and Commissioning at site. No separate charges will be paid separately on this account.

38. **UP TIME GUARANTEE:**

The firm should provide uptime guarantee of 95%.

39. **Downtime penalty Clause**

40.2 During the Guarantee/warranty period, desired uptime of 95% of 365 days (24 hrs) if downtime more than 5% the institute shall be entitled to impose penalty in the form of extended warranty period equal to twice the downtime period. The vendor must undertake to supply all spares for optimal upkeep of the equipment for at least **FIVE YEARS** after handing over the unit to the Centre. If accessories/other attachment of the system are procured from the third party, then the vendor must produce cost of accessory/other attachment and the CAMC from the third party separately along with the main offer and the third party will have to sign the CAMC with the Institute if required.

40.2 The principals or their agents are required to submit a certificate that they have satisfactory service arrangements and fully trained staff available to support the uptime guarantee.

41 **GUARANTEE/WARRANTEE PERIOD:** THE TENDERERS MUST QUOTE FOR 5 YEARS COMPREHENSIVE WARRANTY (INCLUDING ALL SPARES, ACCESSORIES AND LABOR) FROM THE DATE OF COMPLETION OF THE SATISFACTORY INSTALLATION. THE WARRANTY CHARGES SHALL NOT BE QUOTED SEPARATELY OTHERWISE THE OFFER SHALL BE SUMMARITY REJECTED. ALSO THE BIDDERS ARE REQUESTED TO SUBMIT THEIR QUOTE (RATES) FOR SUBSEQUENT 5 YEARS COMPREHENSIVE AMC (INCLUDING ALL SPARES, ACCESSORIES AND LABOR). FAILURE TO COMPLY THIS CONDITION WILL ENTAIL THE REJECTION OF THE BIDS. THE PRICE COMPARISION SHALL BE MADE TAKING INTO ACCOUNT THE COST OF EQUIPMENT WITH 5 YRS. WARRANTY AND POST WARRANTY CMC.

42 **Delivery:** The successful bidders should strictly adhere to the following delivery schedule supply, installation & Commissioning should be effected within 6 to 8 weeks from the date of supply order and this clause should be strictly adhere to failing which administrative action as deemed fit under rules will be taken against the defaulter.

- 43 **SPARE PARTS:** The separate price list of all spares and accessories and consumables, if any, (Including minor) required for maintenance and repairs in future after guarantee/warranty period must be attached/enclosed along with the sealed quotation failing which quotation will not be considered.

If any spares & accessories other than the price list attached/enclosed by the firm are required for future repair it will be borne by the firm only.

- 44 The tenderers are required to furnish the list of spares along with their cost in the Financial bid failing which their bids are liable to be rejected.
- 45 The tenderer shall furnish a non-blacklisting certificate that the firm has not been blacklisted in the past by any government/Private institution. The tenderer/supplier has to give an affidavit on non-judicial stamp paper of Rs.10/- that there is no vigilance/CBI case pending against the firm/supplier and the firm has not been blacklisted in the past by any Govt. or Private Organization.
- 46 Payment of Agency Commission, if any, payable in rupees must be indicated. If no Agency Commission is admissible from the foreign suppliers must be indicated specifically.
- 47 Tenderers should clearly indicate the name of the Manufacturers/Beneficiary of the Letter of Credit, country of Origin, place of shipment/Airfreightment, etc.
- 48 Local agents quoting on behalf of their foreign suppliers must attach valid authority letter in their favour. In case of distributor, the firm should be direct distributor from the principal's. **Either the Foreign Principals/manufacturers or their authorized Indian Agent should participate in the tender but not both. Also one agent cannot represent two suppliers or quote on their behalf in the same tender. The sub-distributor authority by distributor will not be accepted at all. In case the firm is neither manufacturer nor direct authorized dealer of the manufacturer, such offers will be summarily rejected.**
- 49 SUCCESSFUL TENDERERS WILL HAVE TO FURNISH PERFORMANCE BANK GUARANTEE FOR 10% CONTRACT VALUE FROM ANY INDIAN NATIONALIZED BANK VALID FOR THE WARRANTY PERIOD AND TWO MONTHS EXTRA alongwith the final proforma Invoice.
- 50 The rates quoted for the Stores/Equipments, under the reference, by the supplier shall in no event exceed the lowest price at which the suppliers of the Stores/Equipments of identical description are made to any other person/organization/Institution during the period and should attach an undertaking.

#### **FALL CLAUSE**

- 51 If, at any time, during the said period, the supplier reduce the said prices of such Stores/Equipment or sales such stores to any other person/organization/Institution at a price lower than the chargeable, he shall forthwith notify such reduction or sale to the Executive Director, Regional Centre for Biotechnology and the price payable for the Stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.
- 52 Successful tenderers, should give pre-alert intimation prior to shipment notifying both the nominated clearing agents as well as the Institute.
- 53 The supplier shall furnish the following certificate to the Accounts Officer (Stores Accounts) alongwith each bill for payment for supplies made against in Rate Contract Tender.

“I/We certify that the Stores of description identical to the Stores supplied to the government under the contract against Tender herein have not been offered/sold by me/us to any other person/organization/Institution upto date of bill/the date of completion of supplies against all supply orders placed during the currency of the tender/rate contract at the price lower than the institute under contract /against tender”.

54 The supplier shall furnish a list of organizations where the equipment, in question, has/have been supplied during last one year and performance certificate from such organization may also be provided.

**55 A) PAYMENT TERMS (IN CASE OF IMPORTS)**

- 1) Agency Commission, if any, will be paid to Indian agents in Indian Rupees, after satisfactory installation of equipment.
- 2) Letter of Credit will be opened on CIF value, as the case may be, for full amount after deducting the Agency commission/Technical Service Charges, if any.
- 3) **100% payment shall be released against presentation of shipping documents against a performance Bank Guarantee valid for 62 months from the date of satisfactory Installation certificate issued by the user department for 10% value from any Indian Nationalized Bank along with final proforma Invoice. In absence of Performance Bank Guarantee, 90% payment will be released against presentation of shipping documents & balance 10% payment will be released after satisfactory Installation certificate issued by the user department and against submission of Performance Bank Guarantee of 10% order value valid for 62 months from the date of satisfactory Installation certificate issued by user department.**

**B) PAYMENT TERMS (IN CASE OF RUPEE OFFER)**

**100% PAYMENT WILL BE MADE AFTER SUPPLY, installation & satisfactory demonstration of the said equipment subject to submission of Performance Bank Guarantee for 10% order value valid for a period of 62 months from the date of satisfactory Installation certificate issued by the user department, from any Indian Nationalized Bank. FAILING WHICH, 90% PAYMENT WILL BE RELEASED AFTER INSTALLATION & BALANCE 10% PAYMENT WILL BE RELEASED AFTER WARRANTY PERIOD.**

**56) THE SELECTED VENDOR SHOULD ALSO AGREE TO RELOCATE AND RE-INSTALL THE EQUIPMENT AT FARIDABAD BIOTECH CLUSTER WITHOUT ANY ADDITIONAL FINANCIAL IMPLICATION**

**57) PRE-REQUISITES, IF ANY, FOR INSTALLATION OF THIS EQUIPMENT SHOULD BE CLEARLY INDICIATED IN THE TECHNICAL BID, FAILING WHICH IT WILL BE PRESUMED THAT NO SUCH PRE-REQUISTES ARE REQUIRED AND IT WILL BE THE COMPLETE RESPONSIBILITY OF THE VENDOR TO MAKE THE EQUIPMENT FUNCTIONAL WITHIN THE QUOTED PRICE.**

## **TECHNICAL BIDS ONLY**

### **Technical Compliance sheet for MALDI-TOF-TOF system with Nano LC and MALDI spotter**

Sl. No	Item descriptions	Please mentioned if quoted: Yes/No	Please provide the technical detail of the items	If yes, please mention page number and location of item in the main offer/ brochure/ specification sheet
<b>A</b>	<b>SPECIFICATION FOR MALDI-TOF_TOF System</b>			
	Quoted model			
1	The analyzer must have a high performance solid-state laser with minimum of 200 Hz frequency at MS mode and 1KHz frequency at MS/MS mode. It should allow maximum number of shots/spectral acquisitions from each sample with highest protein coverage. It should also provide an optimum geometry to enhance ionization, ion transmission and collection into the TOF tube.		Solid state laser: Laser Frequency: Laser Pulse Energy: Ion Transmission geometry:	
2	The analyzer must include linear, reflector and precursor selected MS/MS modes with high mass resolution, sensitivity and accuracy.		Yes/No	
3	Optimum ion optics to ensure excellent precursor ion selection, fragmentation and analyses of fragment ions.		Please attach a figure showing the complete schema of ion optics along with detailed explanation.  a) Linear Flight Length: b) Reflector Flight Length: c) MS/MS Flight path Length:  Precursor ion selection window:----- Da at----- transmission efficiency.	
4	The instrument must allow fragmentation of analyte molecules under user selectable gas environments and variable collision energy to enable MS/MS studies of varying range of molecules and allow		Yes/No Collision Gases: Collision energy range:	

	identification of side chain fragment of Isobaric molecules.		Mode of fragmentation:	
5	The instrument must be capable of producing low energy unimolecular fragments laser induced dissociation as well as high frequency fragments (CID) and ISD for various applications like differentiation of isobaric amino acids and sugar analyses.		LID: CID: ISD: Differentiation of isobaric amino acids: Sugar analysis:	
6	The system should also include an automated self-cleaning heated source/IR source to reduce matrix contamination on ion optics.		Yes/No Type of heated source:	
7	The instrument having a facility to accommodate 96 and 384 well plates compatible across platforms of any MALDI true TOF-TOF machine and have also compatibility with LC and auto spotters.		Yes/No	
<b>Performance Specification</b>				
1	Resolution in MS and MS/MS modes for various ions spread over a wide mass range in a single spectrum which is essential for PMF and sequence analysis:  (a) MS resolution in linear mode should be greater than 80 to 1000 with standard substance over a broad mass range. (b) MS resolution in reflector mode should be $\geq 30,000$ in a single peak in a broad mass range of 1200 to 3700. (c) Resolution in MS/MS mode should be $\geq 2500$ at m/z 175 $\geq 4000$ at m/z 684 $\geq 5000$ at m/z 1056 $\geq 6000$ at m/z 1441		MS resolution in liner mode----- FWHM- --- da  MS resolution in reflector mode:----- FWHM----da  MS resolution in reflector mode over ions spread over a broad mass range in a single spectrum: a) -----FWHM-----da b) -----FWHM-----da c) -----FWHM-----da MS/MS Resolution -----FWHM at -----da -----FWHM at -----da -----FWHM at -----da -----FWHM at -----da -----FWHM at -----da	

2	<p>Sensitivity (S/N ratio) with minimum sample consumption will be essential across the typical fragmentation mass range to allow the accurate analysis of fragmentation spectra for unambiguous protein sequencing and identification:</p> <p>a) MS linear mode: S/N ratio &gt; 100:1 with <math>\leq 1</math> pmol of BSA.  b) MS reflector mode: S/N ratio &gt;150:1 at 25 amol of Neurotensin or Glu1-Fibrinopeptide  c) MS/MS mode: S/N ratio &gt; 40:1 using 25 amol of Angiotensin or Glu1-Fibrinopeptide from the fragments of 255 to 1180.</p>		<p>Liner mode: S/N &gt;----at -----conc. of mass---- da  Reflector mode: S/N&gt; ----at ---conc. of mass--- da</p> <p>MS/MS Mode:  S/N&gt; -----at -----conc. of Mass ----da to ----- da</p>	
3	<p>Mass accuracy in MS and MS/MS modes on each and individual masses of peptides throughout entire spectrum:</p> <p>(a) Reflector mode MS accuracy: <math>\leq 5</math> ppm external calibration  <math>\leq 1</math> ppm internal calibration  (b) MS/MS mode mass accuracy should be <math>\pm 0.05</math> Da of relevant fragments of Glu1-Fibrinopeptide from the mass range of 175 to 1141.</p>		<p>Reflector accuracy  Internal calibration:  External calibration:  MS/MS Accuracy: <math>\pm</math> -----da for mass ---- to -----da</p>	
4	Should be capable of accurate intact protein identification.		<p>Intact protein range: ..... da .....da  Accuracy: <math>\pm</math> ..... da</p>	
<b>B</b>	<b>2D NANO LC SYSTEM</b>			
1	The 2D Nano LC system should be capable of running either in 2-dimensional separation mode or as two parallel, completely independent binary gradient HPLC systems. It should be equipped with high pressure 2D-Nano LC with two binary gradient flow pump and UV-Vis detector. The system must include an additional isocratic-loading pump for sample enrichment on a trap column, before analysis on a Nano LC column.		<p>Binary pumps:  UV-Vis-detector:  Isocratic-loading pump:</p>	
2	The system should have working pressure tolerance of at least 10,000 psi. The flow rate for binary gradient pump must be in the range of 50nl/min to 500nl/min with flow rate accuracy minimum of 1% and gradient accuracy minimum of 1%. The retention time reproducibility must be less than 0.5%.		<p>Working pressure -----psi  Flow rate accuracy: -----%  Gradient accuracy: -----%  Flow rate for binary gradient pump: ---- to ----</p>	

			Flow rate isocratic loading pump: ----- to ----- Retention time reproducibility:-----	
3	Nano LC system must include programmable injection auto sampler (from 100 nl to 5 µl with standard loop) with working pressure of 10,000 psi or better. It should have very low sample carryover (<0.05%) with very high injection reproducibility (RSD ≤1%) in full loop mode. The auto sampler should be able to accommodate 96/384 micro plates as well as 48/12-sample vial rack at 4 <sup>0</sup> C.		Programmable injection auto sampler: Injection volume: ----nl to ----- µl Sample carryover: -----% Injection reproducibility: -----% Sample holder: ----- micro plate and ----- sample vial	
4	System should be equipped with a temperature-controlled column compartment.		Port valve----- Column compartment temperature: ----- to -----	
<b>C</b>	<b>LC -MALDI SPOTTER</b>			
1	LC-MALDI spotting system must be fully compatible with above MALDI and 2D LC system and should be capable of depositing fractions eluting from a Nano LC column onto MALDI plates with highest reproducibility with automated mixing of MALDI matrix. It should also be used as a fraction collector. LC-MALDI spotting system must support all types of commercially available 96 and 384 well plates.		Yes/No	
2	Spotting frequency should be ≤ 5 sec with user adjustable 1 second steps		MALDI Spotting frequency ----- User Adjustable ----steps	
3	MALDI Spotting flow rate, fraction collection rate and matrix flow rate. Flow rate: 300 nL to 3µL/min or better Fraction collection rate: up to 40 µL/min or better Matrix flow rate: 500nl to 40 µL/min or better		MALDI-spotting flow rate:----- Fraction Collection flow rate:----- Matrix flow rate:-----	
4	Nano-LC and MALDI-spotter must be controlled using same software and which to be included in the offer.		Yes/No	
<b>D</b>	<b>WORKSTATION</b>			
1	System workstation (acquisition computer) having highest possible configuration at the time of delivery with at least 32 bit/64 bit		Bit computing ----- Processor ----- DDR3-----Storage -----TB	

	computing, 2.4 GHZ processor or better 3x 1 TB storage, 3 GB RAM or better, , R/RW, DVD combo-drive, USB ports, Mouse, keyboard, Video capture, Ethernet port, PCI e and Driver kit used to interface data station and instrument, 21 inch LCD monitor or better with best resolution.		RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port--- LCD monitor---- with resolution---- Graphic card --- DVI and HDMI ----	
2	Offline workstation (processing computer) having highest possible configuration at the time of delivery with at least 32/64 bit computing Core i5 3.30GHZ processor or better, 2x 1 TB storage or more, 4GB RAM or better, R/RW, DVD combo-drive, USB, Mouse, Keyboard, Ethernet ports, Built in display port video (with adapter) capable of a digital resolution of 1920 x 1200, 21 inch LCD monitor or better with best resolution available, compatibles and licensed version of Windows (professional) OS and Office (professional) and drivers with original CD.		Bit computing ----- Processor ----- DDR3----Storage -----TB RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port--- LCD monitor---- with resolution---- Graphic card --- DVI and HDMI ----	
3	Workstation (Nano LC and MALDI spotter) having highest possible configuration suitable for Nano LC and MALDI spotter must be quoted.		Bit computing ----- Processor ----- DDR3----Storage -----TB RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port--- LCD monitor---- with resolution---- Graphic card --- DVI and HDMI ----	
<b>E</b>	<b>SYSTEM CONTROL AND ANALYSIS SOFTWARE</b>			
1	Data acquisition software for MALDI TOF-TOF and LC spotter software, compatible to each other. All LC MALDI features should be included in the instrument control software. Capable of automated MS to MS/MS analysis. The software must allow unattended batch processing of data files for protein identification and expression analysis from LC/MALDI experiments on line and off line. System control software must have the ability to setup multiple LC runs with fraction numbering and retention times on a single sample plate. The softwares must be able to determine the spectral quality based on an		Data acquisition softwares:	

	analysis of spectral noise and should terminate the MS/MS acquisition once the spectrum reaches at a user-defined quality level. MS/MS data on any one precursor must be acquired until the spectrum reaches the desired quality level, then acquisition starts on the next precursor for in-depth protein coverage per LC MALDI run in a reduced amount of time. Remote Access capability.			
2	Data processing software and data base search engine compatible with MASCOT search engine from Matrix Science. A direct link to the protein annotation and classification for easy visualization, annotation and linkages of biological significance and functions to the identified proteins. Software must support PMF analysis, identification, De novo Sequencing, PTM analysis, direct link to protein classification system. Software must support the work flow like 1D, 2D gels, MDLC, LC-MALDI. It should support label based (ICAT®, iTRAQ™, SILAC™ etc.) reagents workflows. The software must be able to do biomarker profiling and identification. The software must be able to quantify and identify within a single run. It must automatically calculate False Discovery Rate.		Data Processing and database search softwares	
3	Lipid profiling and analysis software		Yes/No	
4	Glycan profiling and analysis software		Yes/No	
5	Data accusation and data processing softwares for tissue imaging.		Yes/No	
<b>F</b>	<b>PERIPHERAL AND OTHER REQUIREMENTS</b>			
1	10KVA UPS system must be quoted which is capable of meeting the power demand of the entire system including the main equipment, computers		Yes/No	
2	A suitable Laser Jet LAN printer must be quoted.		Yes/No	

<b>G</b>	<b>OPTIONAL ACCESSORIES, SPARE AND CONSUMABLES</b>			
	<p><b>A. Accessories for MALDI-TOF-TOF</b></p> <ol style="list-style-type: none"> <li>1. MALDI plate insert for 96 well plate</li> <li>2. MALDI plate insert for 384 plate</li> <li>3. MALDI plate holder</li> <li>4. MALDI Plate cleaning kit</li> <li>5. Standardization kit</li> <li>6. Mass std ki</li> <li>7. BSA std kit</li> <li>8. IGG1 Mass std. kit</li> </ol> <p><b>B. Accessories for Nano LC and MALDI spotter</b></p> <ol style="list-style-type: none"> <li>1. 96 Well plate</li> <li>2. 384 well plate</li> <li>3. Gas supply and compressor</li> <li>4. Matrix</li> <li>5. C18 RP Column (15cm. 18-100A poracity)</li> <li>6. Cation exchange column</li> </ol>			

Note:

- The price comparison shall be made taking into account the cost of the equipment and accessories with 5 years warranty and post warranty CMC for Five years. Failure to comply this condition entails rejection of bids.
- The selected vendor should also agree to relocate and re-install the equipment at Faridabad Biotech Cluster without any additional financial implication.
- Relevant literature and publications from the original manufacturer that support the quoted model's ability to perform all of the above capabilities and specifications mentioned in the tender documents must be attached otherwise the tenders are liable to be rejected.

**PRICE BIDS ONLY**

**Price compliance sheet for MALDI-TOF-TOF system with Nano LC and MALDI spotter**

Sl. No	Item descriptions	Please mentioned if quoted: Yes/No	Please provide the technical detail of the items	If yes, please mention page number and location of item in the main offer/ brochure/ specification sheet	Price/unit
<b>A</b>	<b>SPECIFICATION FOR MALDI-TOF_TOF System</b>				
	Quoted model				
1	The analyzer must have a high performance solid-state laser with minimum of 200 Hz frequency at MS mode and 1KHz frequency at MS/MS mode. It should allow maximum number of shots/spectral acquisitions from each sample with highest protein coverage. It should also provide an optimum geometry to enhance ionization, ion transmission and collection into the TOF tube.		Solid state laser: Laser Frequency: Laser Pulse Energy: Ion Transmission geometry:		
2	The analyzer must include linear, reflector and precursor selected MS/MS modes with high mass resolution, sensitivity and accuracy.		Yes/No		
3	Optimum ion optics to ensure excellent precursor ion selection, fragmentation and analyses of fragment ions.		Please attach a figure showing the complete schema of ion optics along with detailed explanation.  a) Linear Flight Length: b) Reflector Flight Length:		

			c) MS/MS Flight path Length: Precursor ion selection window:----- Da at- ---- transmission efficiency.		
4	The instrument must allow fragmentation of analyte molecules under user selectable gas environments and variable collision energy to enable MS/MS studies of varying range of molecules and allow identification of side chain fragment of Isobaric molecules.		Yes/No Collision Gases: Collision energy range: Mode of fragmentation:		
5	The instrument must be capable of producing low energy unimolecular fragments laser induced dissociation as well as high frequency fragments (CID) and ISD for various applications like differentiation of isobaric amino acids and sugar analyses.		LID: CID: ISD: Differentiation of isobaric amino acids: Sugar analysis:		
6	The system should also include an automated self-cleaning heated source/IR source to reduce matrix contamination on ion optics.		Yes/No Type of heated source:		
7	The instrument having a facility to accommodate 96 and 384 well plates compatible across platforms of any MALDI true TOF-TOF machine and have also compatibility with LC and auto spotters.		Yes/No		
<b>Performance Specification</b>					
1	Resolution in MS and MS/MS modes for various ions spread over a wide mass range in a single spectrum which is essential for PMF and sequence analysis:  (a) MS resolution in linear mode should be greater than 80 to1000 with standard substance over a broad mass range. (b) MS resolution in reflector mode should be $\geq 30,000$ in a single peak in a broad mass range of 1200-3700. (c) Resolution in MS/MS mode should be		MS resolution in liner mode----- FWHM--- - da  MS resolution in reflector mode:----- FWHM----da  MS resolution in reflector mode over ions spread over a broad mass range in a single spectrum: a) -----FWHM-----da		

	<p> <math>\geq 2500</math> at m/z 175  <math>\geq 4000</math> at m/z 684  <math>\geq 5000</math> at m/z 1056  <math>\geq 6000</math> at m/z 1441 </p>		<p> b) -----FWHM-----da  c) -----FWHM-----da  MS/MS Resolution  -----FWHM at -----da  -----FWHM at -----da  -----FWHM at -----da  -----FWHM at -----da  -----FWHM at -----da </p>		
2	<p> Sensitivity (S/N ratio) with minimum sample consumption will be essential across the typical fragmentation mass range to allow the accurate analysis of fragmentation spectra for unambiguous protein sequencing and identification: </p> <p> a) MS linear mode: S/N ratio &gt; 100:1 with <math>\leq 1</math> pmol of BSA.  b) MS reflector mode: S/N ratio &gt;150:1 at 25 amol of Neurotensin or Glu1-Fibrinopeptide  c) MS/MS mode: S/N ratio &gt; 40:1 using 25 amol of Angiotensin or Glu1-Fibrinopeptide from the fragments of 255 to 1180. </p>		<p> Liner mode: S/N &gt;-----at -----conc. of mass----- da  Reflector mode: S/N&gt; ----at ---conc. of mass--- da </p> <p> MS/MS Mode:  S/N&gt; -----at -----conc. of Mass ----da to -  ---- da </p>		
3	<p> Mass accuracy in MS and MS/MS modes on each and individual masses of peptides throughout entire spectrum: </p> <p> (a) Reflector mode MS accuracy: <math>\leq 5</math> ppm external calibration  <math>\leq 1</math> ppm internal calibration  (b) MS/MS mode mass accuracy should be <math>\pm 0.05</math> Da of relevant fragments of Glu1-Fibrinopeptide from the mass range of 175 to 1141. </p>		<p> Reflector accuracy  Internal calibration:  External calibration:  MS/MS Accuracy: <math>\pm</math> -----da for mass ----  to -----da </p>		
4	<p> Should be capable of accurate intact protein identification. </p>		<p> Intact protein range: ..... da .....da  Accuracy: <math>\pm</math> ..... da </p>		

<b>B</b>	<b>2D NANO LC SYSTEM</b>				
1	The 2D Nano LC system should be capable of running either in 2-dimensional separation mode or as two parallel, completely independent binary gradient HPLC systems. It should be equipped with high pressure 2D-Nano LC with two binary gradient flow pump and UV-Vis detector. The system must include an additional isocratic-loading pump for sample enrichment on a trap column, before analysis on a Nano LC column.		Binary pumps: UV-Vis-detector: Isocratic-loading pump:		
2	The system should have working pressure tolerance of at least 10,000 psi. The flow rate for binary gradient pump must be in the range of 50nl/min to 500nl/min with flow rate accuracy minimum of 1% and gradient accuracy minimum of 1%. The retention time reproducibility must be less than 0.5%.		Working pressure -----psi Flow rate accuracy: -----% Gradient accuracy: -----% Flow rate for binary gradient pump: ---- to ---- Flow rate isocratic loading pump: ----- to ---- Retention time reproducibility:----		
3	Nano LC system must include programmable injection auto sampler (from 100 nl to 5 µl with standard loop) with working pressure of 10,000 psi or better. It should have very low sample carryover (<0.05%) with very high injection reproducibility (RSD ≤1%) in full loop mode. The auto sampler should be able to accommodate 96/384 micro plates as well as 48/12-sample vial rack at 4 <sup>0</sup> C.		Programmable injection auto sampler: Injection volume: ----nl to ----- µl Sample carryover: -----% Injection reproducibility: -----% Sample holder: ----- micro plate and ----- sample vial		
4	System should be equipped with a temperature-controlled column compartment.		Port valve----- Column compartment temperature: ----- to -----		
<b>C</b>	<b>LC -MALDI SPOTTER</b>				
1	LC-MALDI spotting system must be fully compatible with above MALDI and 2D LC system and should be capable of deposit fractions eluting from a Nano LC column onto MALDI plates with highest reproducibility with automated		Yes/No		

	mixing of MALDI matrix. It should also be used as a fraction collector. LC-MALDI spotting system must support all types of commercially available 96 and 384 well plates.				
2	Spotting frequency should be $\leq 5$ sec with user adjustable 1 second steps		MALDI Spotting frequency ----- User Adjustable ----steps		
3	MALDI Spotting flow rate, fraction collection rate and matrix flow rate. Flow rate: 300 nL to 3 $\mu$ L/min or better Fraction collection rate: up to 40 $\mu$ L/min or better Matrix flow rate: 500nl to 40 $\mu$ L/min or better		MALDI-spotting flow rate:----- Fraction Collection flow rate:----- Matrix flow rate:-----		
4	Nano-LC and MALDI-spotter must be controlled using same software and which to be included in the offer		Yes/No		
<b>D</b>	<b>WORKSTATION</b>				
1	System workstation (acquisition computer) having highest possible configuration at the time of delivery with at least 32 bit/64 bit computing, 2.4 GHZ processor or better 3x 1 TB storage, 3 GB RAM or better, R/RW, DVD combo-drive, USB ports, Mouse, keyboard, Video capture, Ethernet port, PCI e and Driver kit used to interface data station and instrument, 21 inch LCD monitor or better with best resolution.		Bit computing ----- Processor ----- DDR3----Storage -----TB RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port---- LCD monitor---- with resolution----- Graphic card --- DVI and HDMI ----		
2	Offline workstation (processing computer) having highest possible configuration at the time of delivery with at least 32/64 bit computing Core i5 3.30GHZ processor or better, 2x 1 TB storage or more, 4GB RAM or better, R/RW, DVD combo-drive, USB, Mouse, Keyboard, Ethernet ports, Built in display port video (with adapter) capable of a digital resolution of 1920 x 1200, 21 inch LCD monitor or better with best resolution available, compatibles and licensed version of Windows (professional) OS and Office (professional) and drivers with original CD.		Bit computing ----- Processor ----- DDR3----Storage -----TB RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port---- LCD monitor---- with resolution----- Graphic card --- DVI and HDMI ----		

3	Workstation (Nano LC and MALDI spotter) having highest possible configuration suitable for Nano LC and MALDI spotter must be quoted.		Bit computing ----- Processor ----- DDR3----Storage -----TB RAM---- Multi SATA--- R/RW----DVD combo drive--- USB----Fire wire port--- LCD monitor---- with resolution----- Graphic card --- DVI and HDMI ----		
<b>E</b>	<b>SYSTEM CONTROL AND ANALYSIS SOFTWARE</b>				
1	Data acquisition software for MALDI TOF-TOF and LC spotter software, compatible to each other. All LC MALDI features should be included in the instrument control software. Capable of automated MS to MS/MS analysis. The software must allow unattended batch processing of data files for protein identification and expression analysis from LC/MALDI experiments on line and off line. System control software must have the ability to setup multiple LC runs with fraction numbering and retention times on a single sample plate. The softwares must be able to determine the spectral quality based on an analysis of spectral noise and should terminate the MS/MS acquisition once the spectrum reaches at a user-defined quality level. MS/MS data on any one precursor must be acquired until the spectrum reaches the desired quality level, then acquisition starts on the next precursor for in-depth protein coverage per LC MALDI run in a reduced amount of time. Remote Access capability.		Data acquisition softwares:		
2	Data processing software and data base search engine compatible with MASCOT search engine from Matrix Science. A direct link to the protein annotation and classification for easy visualization, annotation and linkages of biological significance and functions to the identified proteins. Software must support PMF analysis, identification, De novo Sequencing, PTM analysis, direct		Data Processing and database search softwares		

	link to protein classification system. Software must support the work flow like 1D, 2D gels, MDLC, LC-MALDI. It should support label based (ICAT®, iTRAQ™, SILAC™ etc.) reagents workflows. The software must be able to do biomarker profiling and identification. The software must be able to quantify and identify within a single run. It must automatically calculate False Discovery Rate.				
3	Lipid profiling and analysis software		Yes/No		
4	Glycan profiling and analysis software		Yes/No		
5	Data accusation and data processing softwares for tissue imaging.		Yes/No		
<b>F</b>	<b>PERIPHERAL AND OTHER REQUIREMENTS</b>				
1	10KVA UPS system must be quoted which is capable of meeting the power demand of the entire system including the main equipment, computers		Yes/No		
2	A suitable Laser Jet LAN printer must be quoted.		Yes/No		
<b>G</b>	<b>OPTIONAL ACCESSORIES, SPARE AND CONSUMABLES</b>				
	<b>A. Accessories for MALDI-TOF-TOF</b> <ol style="list-style-type: none"> <li>1. MALDI plate insert for 96 well plate</li> <li>2. MALDI plate insert for 384 plate</li> <li>3. MALDI plate holder</li> <li>4. MALDI Plate cleaning kit</li> </ol>				

	<ol style="list-style-type: none"> <li>5. Standardization kit</li> <li>6. Mass std ki</li> <li>7. BSA std kit</li> <li>8. IGG1 Mass std. kit</li> </ol> <p><b>B. Accessories for Nano LC and MALDI spotter</b></p> <ol style="list-style-type: none"> <li>1. 96 Well plate</li> <li>2. 384 well plate</li> <li>3. Gas supply and compressor</li> <li>4. Matrix</li> <li>5. C18 RP Column (15cm. 18-100A poracity)</li> <li>6. Cation exchange column</li> </ol>				
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Note:

- The price comparison shall be made taking into account the cost of the equipment and accessories with 5 years warranty and post warranty CMC for Five years. Failure to comply this condition entails rejection of bids.
- The selected vendor should also agree to relocate and re-install the equipment at Faridabad Biotech Cluster without any additional financial implication.
- Relevant literature and publications from the original manufacturer that support the quoted model's ability to perform all of the above capabilities and specifications mentioned in the tender documents must be attached otherwise the tenders are liable to be rejected.