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INDIAN COUNCIL OF
MEDICAL RESEARCH

NIRT
NATIONAL INSTITUTE FOR
RESEARCH IN TUBERCULOSIS



தேசிய காசநோய் ஆராய்ச்சி நிறுவனம்
राष्ट्रीय यक्ष्मा अनुसंधान संस्थान

ICMR-NATIONAL INSTITUTE FOR RESEARCH IN TUBERCULOSIS

Department of Health Research, Ministry of Health & Family Welfare, Government of India
#1, Sathyamoorthy Road, Chetpet, Chennai 600031

BID DOCUMENT

NAME OF WORK: Purchase of ULTRA HPLC-MS/MS

Re-tender Enquiry No: P1/ULTRA HPLC-MS/MS (Biochemistry)/2018-19

Re-tender published at Website: <https://eprocure.gov.in>
www.nirt.res.in

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Date: 23.01.2019

NIRT Re-tender

Electronic Bids are invited through website <https://eprocure.gov.in> under two bid system from eligible domestic bidders registered in India i.e Original Equipment Manufacturers/Authorized Dealers/Authorized Distributors/Suppliers authorized by OEM for procurement of ULTRA HPLC-MS/MS for Clinical Biochemistry and Pharmacology department at NIRT, Chennai.

Re-tender Enquiry

Date of Publishing	23.01.2019
Bid Document Download start date(Online)	23.01.2019
Bid Submission start date(Online)	24.01.2019
Bid Submission End date (Online)	21.02.2019
Receipt of EMD at NIRT, Chennai	20.02.2019
Date of Technical Bid opening(Online)	22.02.2019
Date of Financial Bid Opening	To be Notified separately

Earnest Money Deposit: Rs.4,50,000/-. EMD should reach this office in the form of Demand Draft drawn in favour of The Director, NIRT, Chennai on or before **20.02.2019**.

Important Notes:

1. Re-tender documents may be downloaded from central Public Procurement Portal <http://eprocure.gov.in/eprocure/app>.
2. Only Bids received on our Re-tendering portal will be considered for opening. Bids in any physical form sent through fax/e-mail/courier/post/delivered personally will not be considered.
3. Any addendum/Corrigendum date extension in respect of above Re-tender shall be issued on our website www.nirt.res.in and website <https://eprocure.gov.in> only and no separate notification shall be issued in the press. Bidders are therefore requested to regularly visit our website to keep themselves updated.

Place: Chennai

Date: 23.01.2019

General TERMS & CONDITIONS

Nature of items:

For supply & installation of goods/instrument with specifications as mentioned in Annexure – I.

1. Scope of Supply:

1. The Re-tenders shall be submitted as per the new scientific equipments enclosed in Annexure – I
2. NIRT, Director reserves the right to accept or reject any or all Re-tenders without assigning any reason thereof.

2. Bid Submission and Opening:

- a. The bid should be submitted online at website <http://eprocure.gov.in/eprocure/app> only by due date. The server date and time as appears on the website only shall be considered for the cut-off date and time for submission of bids. Offers sent through post, fax, e-mail, courier or by any other mode will not be considered.
- b. Only those bidders shall be considered who submit requisite EMD documents and accept all the terms and conditions of the Re-tender document. The decision of NIRT shall be final and binding.
- c. Bidder will be responsible for any delay due to other issues.
- d. Bidder shall select the payment option as offline to pay the EMD and enter details of the Demand Draft/Bank Guarantee.
- e. The bidder has to digitally sign and upload the required documents one by one as indicated in the Re-tender document.

3. Submission of offer:

The Re-tender shall be submitted online in two cover system duly scanned and digitally signed by the authorized representative of the bidder as follows.

A) Cover-1 (Techno-commercial Bid):

Online Bid should be submitted containing copy of the following documents in cover-1 as documentary proof, for fulfilling qualifying criteria, failing which the offer shall be summarily rejected.

- a. Scanned copy of Earnest money amount must be furnished.
- b. Bidder/Agent who quotes for goods manufactured by other manufacturer shall furnish valid Manufacturer's / Dealer's Authorization form.

B) Cover-2 (Price Bid):

- a. The price must be quoted only in the price Bid format attached as BOQ. Please quote the prices

C) Indian Agent

1. If a foreign bidder has engaged an agent in India in connection with its bid, it will be required to give the following information in the bid.
 - The name and address of the Indian agent with their permanent income tax number
 - The details of the services the agent will Re-tender

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4. Validity of Re-tender:

- a. The Re-tender shall be valid for a period of 180 days from the date of opening of the Re-tender.
- b. No representation for the enhancement of the prices of the accepted Re-tender or alteration of the terms and conditions will be entertained till supplies are completed.

5. Price:

- a. The price shall be firm and shall include all applicable taxes and other charges including freight charges for delivery upto destination that is NIRT, Chennai
- b. All duties, taxes and other levies payable by the bidder under the contract shall be included in the total price.

6. Payment:

- a. After successful installation of the material, payment will be made by NIRT, Chennai by NEFT transfer to the bank account.
- b. The Re-tenderer shall submit the documents which shall clearly indicate that the proper supply and installation of instrument/equipment has been done.
- c. 100% payment shall be made only after supply of the items in good condition along with successful delivery of items and satisfactory installation report received by competent authority. No advance payment will be made.

7. Earnest Money Deposit:

- a. The units registered with National Small Industries Corporation (NSIC) or the concerned ministry or Department shall be exempted from the payment of Earnest Money as defined in Rule 170 of GFR 2017. In such case, copy of the certificate showing registration with the above mentioned institution to be enclosed along with the bid.
- b. In case the unit is not covered as above, it shall submit the offer along with the EMD.
- c. The EMD by way of Demand Draft drawn in favour of The Director, NIRT, Chennai is to be sent to this office on or before the date specified in the notice for Re-tender.
- d. The scanned copy of the EMD should be included in Envelope I of the Re-tender documents. The offers without EMD will be rejected without any notice.

8. Performance Bank Guarantee:

The successful bidder shall be required to submit a performance Guarantee equivalent to 10% of the contract value in the form of Bank Guarantee/Demand Draft. The Bank Guarantee should remain valid for 3 months beyond the date of the completion of warranty.

9. The equipment should be delivered at the respective location at NIRT, Chetpet, Chennai. The supplier he is response for customs clearance at the respective airport / seaport, the freight charges against may be quoted in the Re-tender.

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**TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF ULTRA HPLC MS/MS
SYSTEM ALONG WITH ACCESSORIES – 1 NO.**

Proposed applications:

The UHPLC-MS/MS is intended to use for the qualitative and quantitative analysis of the following compounds in human plasma, serum and food matrices.

The instrument will be employed for the metabolomics applications

- (i) Fat & water soluble vitamins
- (ii) Fatty acids & their derivatives (lipid mediators)
- (iii) Anti TB and Anti HIV drugs and other pharmaceutical agents
- (iv) Phytochemicals and other potential therapeutic compounds

UHPLC-MS/MS system should have following capabilities:

1. System should be with dual source, capable to handle large batches of clinical samples/ food samples.
2. The instrument should have APPI probe for handling less & non polar compounds
3. During longer run there should not be performance degradation
4. Cleaning of the source should be simpler and without the involvement of vacuum inter lock.
5. Should be provided with suitable pre-filters for compacting ion beam, maximum ion throughput and maximum neutral removal for best signal to noise ratio.
6. Collision cells should provide advanced features to eliminate ion cross talk.
7. Software should be single powerful platform to control complete UHPLC-MS/MS operations, calibrations, data analysis, quantification and data management etc.
8. Instrument should be equipped with internal mass correction facility, should be able to carry out self-test and diagnosis without losing sensitivity
9. Manual and auto tuning features should be available.
10. All the specifications should be presented as accurate as presented in the supplier's brochure/ specification sheet.

SPECIFICATIONS FOR MS/MS SYSTEM:

Ionization Source:

Multimode Ionization: A combined **ESI/APCI** source and an **APPI source** for less/non polar compounds must be provided with the instrument. Instrument with higher desolvation temperature ($\geq 500^{\circ}\text{C}$) is **preferred for optimal performance**. Solid analysis probe need to be quoted separately which can be a considered optional.

Mode of ionization : Positive and Negative (or) dual mode

Flow rates (ESI & APCI) : $5\mu\text{l}/\text{min}$ to $2\text{ ml}/\text{min}$

Mass analyzer : Triple Quadrupole analyzer

Mass range : 5 to 4000 amu

Mass resolution : $\leq 0.5\text{ Da}$

Polarity switching : 50 ms

Scan speed : minimum 12,000 amu /sec

Collision cell clearance : Low DWELL time of 1ms (or) better to avoid ion cross-talk without sacrificing sensitivity to allow multiple MRM, MS and MS/MS with matrix to be done separately in a single run.

Detector:

: High efficiency Electron Multiplier/Photomultiplier.

Detector sensitivity

: 1) In MRM ESI+Ve or 1pg reserpine on column, S/N 150000:1 or better

2) In MRM ESI –Ve 1pg chloramphenicol on column should give chromatographic S/N greater than 150000:1 .

Linear dynamic range

: Up to 10^6 (or) better.

Scan options

: Single Ion Monitoring (SIM), Single Reaction Monitoring (SRM), Multiple Reaction Monitoring (MRM), MS/MS scan, Precursor ion scan, Product ion scan, Neutral ion scan, MS/MS/MS in a single run, Enhanced resolution scan. Data dependent acquisition-Mandatory
Data independent Acquisition-Optional

Vacuum system:

Powerful turbo molecular pump working under a mechanical vane pump with vacuum interlock.

SPECIFICATIONS FOR LIQUID CHROMATOGRAPHY SYSTEM

Degasser: On-line degasser with two ports.

Pump

Pump : Dual plunger binary gradient pump
Flow rate : 10 μ l to 2 ml/min or better
Pressure range : 0 to \geq 15000 psi
Flow accuracy : \pm 1%
Type of gradient : Linear and non-linear
pH range : 1-10 pH

Auto sampler

Injection loop volume range : 0.5 to 40 μ l, in 0.1 μ l increment
Capacity of sample tray : 96vials (or) more
Temperature range : 5°C to 25°C
Sample carryover : <0.005% or better

Column oven

Features : It must be peltier controlled Oven:
Temperature range : +10°C below ambient to 60°C or above with 1°C increments
Temperature accuracy : \pm 2°C
Column Oven Capacity : Two (or) more; 30 cm length.

Photodiode array detector

Wave length range : 190nm – 750nm
Wave length accuracy : \pm 1 nm
No. of arrays : 1024
Flow cell volume : \leq 2.5 μ l
Data Acquisition : \geq 80Hz
Drift : \leq 2 mAU/hr
Noise : \leq 10 μ AU with 4nm band width

The system should accommodate consumables such as column, from any brand.

SPECIFICATIONS FOR ACCESSORIES, CONTROL SOFTWARE AND SYSTEM.

Control software and data analysis software:

The software should be able to provide single platform for controlling liquid chromatography, syringe pump and mass spectrometer simultaneously as well as independent of each other, MS/MS operations, calibrations, data analysis, quantification and data management software should have the capability for atomic calibration, auto tuning, automatic MRM data generation, remote monitoring software.

Suitable library or Database (such as METLIN) must be integrated along with data analysis or data processing software. Molecular formula generator to be provided

Computer and accessories

Branded PC with Intel Core i5 Processor, 8 Gb DDR3 1600Mhz SDRAM, 2*2Tb HDD with RAID 1 Configuration, DVD RW (CD RW capable), 3 Ethernet ports, 2 single port Broadcom cards. Built in DisplayPort Video (with DVI adapter) to provide maximum digital resolution of 1920x1200. Laser 6-button mouse and keyboard and suitable sized monitor original operating system (Original OS CD/DVD), and licensed anti-virus to operate UHPLC-MS/MS equipment through control software.

This PC is preferred to be RoHS compliant and can be used as an acquisition workstation or stand-alone processing computer.

Essential items:

A syringe pump option for direct infusion of samples into the MS/MS system for calibration and sample analysis. All required fused silica tubing; fittings. also should be included. Essential spares such as needles, needle seats and lamps. A set of 1000 vials (~ 2 ml), flat bottom micro-inserts/volume reducers (~300 µl), screw caps and pre-slit to be quoted separately.

Installation

All accessories such as gas generators (International brand) N2 with suitable purity and capacity for LC-MS (or) zero air generator and Helium gas cylinder, Argon (Ar) gas cylinder with suitable gauge along with safety chain. Any other items required to make the system complete installation should be included in the quote. Gas panel erection and complete installation of LC-MSMS should be taken care by the supplier. Gas cylinders with test certificate from manufacturer and no objection certificate from the explosive department (Nagpur), gas pipes, ferules, fittings, gauges should be included in the quote.

Instrument installation kits, test reagents, test standards (reserpine, caffeine, MRFA, PPA, PEG), tubing, fittings, seals, cables, vent and vanes for exhaust, solvent bottles. should be included in the quote. Instrument qualification (IQ), Operational qualification (OQ) and performance qualification (PQ) should be included in the quote.

Columns

The following Low bleed / MS grade columns along with guard columns and cartridges, each of two numbers should be quoted.

The LC system should accommodate columns form any brand

- 1) C18; 2.1 x 100 mm, 2.6 µm.
- 2) C8; 2.1 × 100 mm, 2.6 µm.
- 3) HILIC; 2.1 × 100 mm, < 3 µm

Electrical specification

All modules of LC, MS/MS, vacuum pump, gas generators should work at power ratings of 220 Volts and 50 Hz frequency on single phase.

UPS

10KVA UPS with minimum two hours back up

Guarantee / Warranty: The UHPLC-MS/MS system along with, vacuum pump, all the gas generators and computer should be provided with 3 years comprehensive maintenance (including spares and preventive maintenance kits) and 2 years non-comprehensive warranty (preventive maintenance kits should be provide free of cost) from the date of completion of satisfactory installation. **After 5 years, the firm has to provide AMC (as per the norms of ICMR) for a minimum period of five years with an undertaking that the service will not be interrupted even if the manufacturer/company is sold/transferred/merged** with another

company. This undertaking has to be submitted after satisfactory installation along with the bills. Firms violating the warranty/guarantee clause are liable for blacklisting.

Training: The supplier should provide extensive training to the scientific/ technical staff as per the requirement in-land/overseas

Warranty & Service: The entire instrument should be provided with 3 years comprehensive and 2 years non-comprehensive warranty from the date of completion of satisfactory warranty. Immediate response upon system failure should be guaranteed. Response to service calls should happen within 48 hours.

Others:

- ✓ The unit must be quoted by Original Equipment Manufacturers with Sales and service support facilities in India through their branch office / Indian Agent (or) Indian agent with extensive sales (Minimum 5 years) and service support in India representing foreign principals / Original Equipment manufacturers. The Indian agency / dealership certificate with details of sales and service support should be enclosed with the technical bid.
- ✓ The firm should provide necessary original documentary evidence of the features of the offered model in the technical bid to facilitate proper technical evaluation.
- ✓ Purchase orders, contact details and user satisfactory reports of the quoted model from Nationalized or reputed laboratories all over the India must be shared with quotation.
- ✓ Equipment should be delivered at the door step of NIRT. Imported equipment's customs duty, shipment clearance, equipment transport will be the responsibility of the instrument supplier.
- ✓ Complete installation and testing the main system and the accessories to their specifications done at the site of installation free of cost. All utility requirements for installation and running the system should be mentioned in the offer.
- ✓ Please indicate the year in which the model offered was introduced into the market and confirm whether the spares for the system would be available for a minimum period of 10 years and shall not be obsolete within five years of procurement.
- ✓ Special discount on list price for all spare parts must be given up to 10 years.
- ✓ Availability of local service support and response time for a service call during and after warranty specified.

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ANNEXURE-II

Bid Submission

Online Bid Submission:

The online bids must be uploaded online in two covers as explained below.

Cover – I			
(Following documents to be provided as single PDF file)			
S. No	Documents	Content	File Types
1.	Technical Bid	Compliance sheet with technical Specifications mentioned in Annexure-I	.PDF
2.		Online Bid Submission details (Annexure-II)	
Cover - II			
S. No	Types	Content	
1.	Financial Bid	Price Bid(BOQ) may be submitted as an BOQ for item quoted as per specification mentioned in Annexure-I	Excel

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