National Dope Testing Laboratory

WADA Accredited Lab
ISO/IEC 17025:2005 - NABL Accredited Lab

Certificate No. T-0607

172/Admin/NDTL/2015-16 Dated 9.10.2015

Corrigendum

This is to inform that in reference to the Tender "Bid Reference No. 172/Admin/NDTL/2015-16" for procurement of one LC-QTOF system for NDTL, few amendments are made in the " Section – XIII - Technical Specifications" and in Section-VII-Qualification criteria. All interested bidders are requested to see the revised said sections uploaded herewith before filing their bids.

9/10/15

Pr. Scientific Director
NDTL

National Dope Testing Laboratory, Ministry of Youth Affairs & Sports, Govt. of India, Jawaharlal Nehru Stadium Complex, East Gate, Near MTNL Building, Lodhi Road, New Delhi 110003, India.
Ph: - +91-11-24368850, 24368536, 24364142, 24501050 Telefax:-+91-11-24365530
Email:-ndtlindia@nic.in, ndtlindia@gmail.com, Website: www.ndtlindia.com

Section – XIII
Technical Specifications
of
ULTRA PERFORMANCE LIQUID CHROMATOGRAPHY, HIGH RESOLUTION QUADRUPOLE TIME OF FLIGHT MASS SPECTROMETER- (LC-QTOF) SYSTEM.

S.No.	Brief Description of items	Specification
Quadrupole Time Of Flight Mass Spectrometer - (Q-ToF) System:		
1	**Ion Source**	The instrument must be equipped with a Combined or separate Ionization Source assembly for ionizing samples in both ESI & APCI sources. Facility for switching between the two ionization types (ESI & APCI) during a single LCMS experiment should be available. Positive and negative ionization capabilities must be included as standard on the instrument. An isolation valve must be fitted to the source to allow the source elements to be removed and cleaned without breaking instrument vacuum, maximizing instrument uptime. ESI Flow Rate Range: Up to 2ml/min or more without the use of splitter.
2	**Mass Analyzer**	The instrument should be capable of operating in following modes: **Quadrupole Mass Range / Quadrupole Isolation Range:** 1200m/z or better **TOF Mass Range:** The mass range of the analyser must be 10,000 m/z or better.
3	**Vacuum System**	Suitable Vacuum system to operate the instrument.
4	**Acquisition Rate**	Minimum 25 Spectra per second or better maintaining a resolution of ≥ 35,000 FWHM in MS mode. **(Separate scan speed should be defined for MS mode & MS/MS mode)**
5	**Resolution in MS mode**	1) For mass range above 1000 m/z must be ≥ 40,000 FWHM ii) For mass range upto 1000 m/z must be ≥ 25,000 FWHM **Note: a) Particular Masses used in both the case should be mentioned**

		b) Resolution in MS/MS mode and the mass used should also be mentioned.
6	**Mass Accuracy**	Minimum 1 ppm, in MS mode and 2 ppm in MS/MS mode on 10 consecutive repeat measurements using suitable lock mass.
7	**Sensitivity**	1. S/N ratio in MS Mode and MS/MS mode" of 1 pg on-column reserpine injection should be more than 300:1 with above claimed resolution. 2. The dynamic range of at least 5 orders.
8	**Direct Infusion**	Syringe pump or equivalent for direct infusion of samples.
9	**Reference Mass Introduction.**	The instrument should be capable of internal reference mass correction for MS and MS/MS operation without losing sensitivity
10	**Interface**	a) The design of the instrument should be to maximize the intake of ions that are generated during to ionization stage in to the mass analyzer, by following it up with a design to reject the excessive neutrals that are taken into the system along with the ions, like Ion Funnel Guide / Step Wave or any other technology. b) A third dimension of ion separation particularly for isobaric species, co-eluting ions using advance tech based Ion Mobility or similar technology generating results equivalent to ion mobility should be part of module. The control of ion mobility or similar technology should be through software
11	**Acquisition Modes**	Following acquisition modes must be available: 1. MS Scanning 2. MS/MS product Ion Scanning 3. Simultaneous MS & MS/MS scanning. The software should be capable of data acquisitions whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions. 4. Additional mode of operation of the equipment to maximize specificity with MRM quantitation using high resolution fragment ions, to do Qual/Quan applications at sub ppb level in a single run.
12	**Computer**	A suitable computer with heavy duty printer HP 3000 series or better to operate the system.
13	**Operating Software**	The software should be user friendly & have capabilities to perform the following functions. Integrated sample/calibrant delivery system + programmable divert valve

		Automated mass calibration Software tools for addressing Screening, Component Identification & Structural Elucidation workflows. The data processing software must incorporate an elemental composition calculator as standard. Included into the calculator must be algorithms for isotope pattern modeling that allow data interpretation of actual isotope patterns. A goodness of fit from actual to theoretical isotopes must be included. The ability to filter out incorrect elemental composition calculations through the use of intelligent spectral interpretation algorithms must be incorporated. Suitable software for detection and identification of metabolites (expected and unexpected), minimizing false positives and generating extensive metabolite lists using various mass defect filters should be quoted. The software should also have capability for assigning structures by taking fragment ion spectra into account and automatically calculating fragments based on algorithms.
14	**Gas Generator**	A suitable and efficient/ high quality gas generator with built-in compressor capable of providing all the gases at the required purity (99.99%), pressure and flow rate for the QTOF Mass Spectrometer must be quoted. The compressor should be noise-free.
15	**<u>LIQUID CHROMATOGRAPHY UPLC SYSTEM:</u>** A liquid chromatography system should provide an integrated configuration for solvent and sample management with the following specifications	
	Pump:	**Quaternary Gradient Pump /Solvent Manager** with low pressure mixing. **Operating Flow Rate Range** to be 0.010 to 2.000 mL/min, in 0.001 mL increments. **Operating Pressure** should be 15000 psi or better. **System Delay Volume** < 400ul, independent of system backpressure (with standard mixer) The chromatography system should be capable of being operated both as a HPLC & UPLC by interchanging the column chemistries.
	Auto sampler:	An auto sampler should be quoted with a Sample Carryover < 0.005% or < 2.0 nL, whichever is greater (with dual wash).
	Column Heater:	A column heater should be quoted with Column Tracking &

		Storage Devices.
	Photo Diode Array Detector:	**Wavelength Range** **:** 190 – 800nm. **Wavelength Accuracy** : ±1nm or better **Optical Resolution** : 1.2 nm or better **Flow Cell Path Length** : 10 mm **Flow Cell Volume** : 10ul/10 mm or 2.5ul/5mm or better. (Please specify the Exact flow cell volume.)
16	**Single Point of Control**	Single point control for both LC and MS system
17	**Training**	Training for application and maintenance : **1.** Training of 2 persons at factory site *AND* 2.Training of 2 persons at domestic application/CoE site.
18	**UPS System**	15 kva ups with one hour power back-up
19	**Others**	Any other auxiliary items such as gas regulator, gas purifier etc. etc.
20	**Warranty**	1 Year standard warranty from the date of installation.

SECTION – VII

QUALIFICATION CRITERIA & PERFORMANCE STATEMENT

(A) QUALIFICATION CRITERIA

Bid Reference No. 172/Admin/NDTL/2015-16 **Dated: ……..**

(a) The Bidder must be a Manufacturer or its exclusive Authorized Agent.

(b) The bidder must satisfy the following qualification criteria –

Sl. No.	Qualification Criteria	
1	Annual turnover of manufacturer/bidder (Average of last 3 years of 2013-14, 2012-13 and 2011-12) (Enclose documentary evidence such as certificate given by the Chartered Accountant)	**Rs. 25.0 Crores.**
2	Proven past performance of bidder of supplying satisfactory to sports stadia/ sports academies/ sports federations/ sports training centres in last 3 years.	**a) The quoted model or preceding model of the equipment/system should be atleast one installation in WADA accredited anti-doping laboratory and two installations in similar laboratories which are engaged in the field of drug testing/forensic/toxicology related research .** **(b) Number of installation in India in Govt./ Private Sector and WADA approved labs globally should be mentioned and list containing contract details of the user and institutions should be provided.**
3	**<u>After Sales Service</u>:** **After sales service network in India of manufacturer/ Indian Agent to satisfactorily cater to services. The Bidder has to provide a good after sales service support. The shutdown problem in the machine should be rectified within 24 hrs. and 72 hrs., if any part is required to be replaced. A undertaking in this regard should be given along with the quote. The Bidder will give complete addresses of after sales service centres in India alongwith technical manpower available.**	
4	**The manufacturer should be manufacturing the same type of equipment at least for the last five years. The quoted model of the system should be in use atleast for last one year and the model launched after 1st January 2015 will not be accepted.**	
5	**In case the Bidder is not manufacturer then the Bidder should be an authorized Indian Agent of manufacturer and in business of supplying Installing & maintaining (during warranty period and CAMC period) equipment prior to the date of opening of Bids for atleast one year.**	

(c) In support of the above, the bidder shall furnish relevant documents, Performance Statement as per Pro-forma in Section-III (B).