Open tender notification for the procurement of "High Content Screener and Multimode Plate Reader" at the Indian Institute of Science, Bangalore

(Last date of submission of tenders: 20th-August-2021)
(TENDER FROM DOMESTIC VENDORS)

Date: 09.08.2021

To whom it may concern

This is a Request For Quote (RFQ) from domestic (India based) manufacturers for the supply of **"High Content Screener and Multimode Plate Reader"**, as a part of a tender for the Department of Microbiology and Cell Biology at the Indian Institute of Science.

1. Please send your quotation valid for 90 days for the supply of equipment described below.
2. Your quotation should clearly indicate the terms and conditions of the quotations, delivery, delivery schedule, entry tax, payment terms, warranty coverage etc.
3. The tender should be submitted in two separate sealed envelopes – one containing the "Technical bid" and other containing the "Commercial bid", both of which should be duly signed and must reach the undersigned on or before 17:00 hours 20th-August-2021
4. The compliance table should include all the items and in the same order. The first column should describe your compliance in a "Yes" or "No" response. If "No" the second column should state the extent of deviation. The "third" column should state the reasons for the deviation if any. The fourth column can be used to compare your solution with that of your competitors or provide details as requested in the technical requirements table below.

1. High Content Imaging and Analysis Platform

An advanced, fully automated high-content confocal imaging microscope system with the following system configuration should be offered. The vendor should supply the entire system from a single source with all necessary accessories and complete system integration of hardware and software components for ideal integration and functionality. The vendor should be responsible for the complete system installation, functioning and maintenance.

Required specifications:
1. The system should be table top type high-content confocal imaging platform and with no need for dark room for imaging.
2. The system should have confocal and wide field imaging along with brightfield imaging capability.
3. The system should have an inbuilt spinning disc confocal with a single high speed spinning disc and multiple pin hole sizes, with the options of 40 or 70 micron pinholes, to allow high-resolution multi-colour confocal imaging of both thin and thick tissue samples.

4. High resolution CCD sensor with large field of view of at least 2200 x 2200 pixel array (atleast 4.5 um/pixel), and with high quantum efficacy ($\geq$ 70%).
5. The system should have both Laser-based autofocusing and image-based software autofocus.
6. Should be provided with Air-objective lenses of 4x, 10x, 20x, 20x (High NA), 40x and 60x.
7. Equipped with minimum 4 multi-Color LEDs and additional white light for transmitted light imaging to enhance contrast for quantitative analysis of non-labelled or colorimetric stains, for Brightfield imaging.
8. The system should be able to image and quantitate chromogenically stained samples.
9. The system should have minimum 7 solid state LEDs/Lazers to cover UV to Near IR (386 nm to 747 nm) range Fluorescence illumination for confocal and widefield imaging.
10. Should come with filter wheel with at least 5 Color dichroic and emission filter to allow multiple fluorophores.
11. Plate formats: Compatible with SBS standard microplates (6, 24, 96, 384 &1536 well) and glass slides. All imaging modalities should be compatible with any type of imaging types/ objectives.
12. System should be capable of performing On-the-fly phenotyping, ie, parallel image acquisition and analysis for on-the-fly population calculation of specific cell phenotypes in real time
13. System should be capable of upgrading with a Live Cell Module, for enabling environmental control with control of temperature, humidity and dual gases (CO_2 and N_2) for true-hypoxia experiments. Should include built in imaging scheduling for well level and cell level kinetic analysis software.
14. Image analysis software should have predesigned assays for common assays for imaging and analysis like receptor internalization assays image segmentation, background correction, spot detection, co-localization, multi parameter cytotoxicity, neuronal profiling, cell cycle, tube formation, cell motility measurements, toxicity, dot measurements in the nucleus and cytoplasm, ROI analysis tools etc. for ease of setting up assay protocols along with ability to build custom-designed assays for automated image acquisition and analysis setup. Ability to image and analyse single cells of a specific phenotype as defined by the end user.
15. Software must be capable of providing cell level cut-outs to perform quality control by backtracking the data to each individual cell/event and excluding the artifacts in data while performing single-cell analysis.
16. Analysis software should offer quantitative information and display a graph of plot and histogram. All the cellular features being reported in charts or tables should be available for viewing at the touch of a button.
17. Software should be capable of analysing Z-prime assay performance to allow the identification of best performing assays in terms of signal to noise ratio or background.

18. The provided software must be able to perform multiple-pass scans, such as identifying samples at low magnification across large surface areas and capturing samples at higher magnification to evaluate rare events, to drastically reduce the total scan time and corresponding file memory consumption.
19. Work station with Windows-10 operating system, high-speed processor, 64-bit computing capacity, 64-GB RAM, 2-TB storage space with possibility for expansion, key board, mouse and at least 24-27" high-resolution widescreen monitor.
20. The workstation should include software to control equipment and analyse the images on the same computer without the need for external servers.
21. System should have option to upgrade with robotic capabilities and plate-handler from same provider (no third party integration).
22. Bidder should have at least 10 installations of their HCS platform in India.
23. Bidder must provide the after sales service and application support capabilities locally though factory trained service engineers and application scientists.
24. A sturdy vibration-free table, 3KVA UPS and 3 Years of Comprehensive Warranty must be included
25. HCS Machine should have a closed plate handling unit to contain the samples inside the machine while collecting data.

2. Technical Specifications for Multimode Microplate Reader

1. The instrument should be a spectral scanning multimode microplate reader capable of doing photometry, Fluorometric Intensity, Luminescence, It should be upgradable to hTRF, AlphaScreen and AlphaLISA.
2. All specifications of the system should be tested and guaranteed. The specification should not be typical or relative values.
3. Auto Gain facility should be available, not the default setting in software. Instrument should automatically calibrate results with different gain settings to obtain single consistent measurement range.
4. Dynamic range for the fluorescence and luminescence should be mentioned and approximately it should be more than 6 to 7 decades.
5. The quoted instrument should have two dispensers for flash luminescence assays like Ca2+ flux, ATP assays etc.
6. Onboard Incubator and shaker should be available. Incubation temperature should be upto 45^0C and Orbital shaker with adjustable speed and diameter.
7. System should be supplied with Analysis software with unlimited user license.
8. Software should have option for area selection. i. e different protocols at different area of the same plate.
9. Spectral scanning of all 96 samples or 384 samples should be able to view in single graph plot.

10. Single software program should allow any number of measurement steps within the program.
11. Orbital Shaking with adjustable timing, speed and diameter. Automatic safety control based on the shaking speed and plate format to avoid spilling of the liquid from wells.
12. No loss of already measured data even in case of power failure.
- Should be compatible for low volume sample analysis using accessory plate, volumes down to 2 μL.
- Automatic Smart Safety Checks like Plate check, Prime check, Position sensors, Shaker check and dispensing volume check.

Optical System:
13. Instrument should have Quadruple Monochromator based, double excitation and double emission monochromators for fluorescence applications.
14. Instrument should have double monochromators for photometric (UV and Vis) measurement.
15. The instrument should have a single lamp source and separate detectors for Photometry, Fluorometry and optional module for Time resolved fluorescence and Luminescence.

Absorbance / Photometry
16. Measurement range in Photometry: 200-1000nm
17. Linear measurement range in photometry:
    0-4Abs at 450 nm, ±2% (96-well plate) and
    0-3Abs at 450 nm, ±2% (384-well plate).
18. Instrument should have on-board pathlength correction for direct quantification. E.g. Nucleic acids and proteins.
19. Plate type : 6 well to 384 well format

Fluorescence/Fluorometry:
20. Fluorometry wavelength selection: Excitation range: 200-1000nm, Emission: 270-840nm.
21. Fluorescence intensity sensitivity of 0.4 fmol fluorescein per well with 384 well black plates.
22. Plate Type : 6 well to 1536 well format

Luminometry:
23. Luminometric sensitivity of <7 amol ATP/well with 384 well white plate using flash ATP reaction.
24. Should have spectral scanning feature in Luminescence.
25. Luminometry should have three measurements mode – Normal, Filter and Monochromator mode with excellent sensitivity.

26. Luminometric module should have DLR assay certified for Dual-Luciferase Reporter assay.

Data Analysis Software:
27. System should be supplied with Analysis software with unlimited user license.
28. Database based software to run backups of all data, restore back up data (in case of hardware failure of original computer.
29. Single –Click data export option to open Microsoft Excel.
30. Should have different file formats during data export which includes .xlsx, .pdf, xml, and .txt
31. Software should have option for area selection. i. e different protocols at different area of the same plate.
32. Spectral scanning of all 96 samples or 384 samples should be able to view in single graph plot.
33. Single software program should allow any number of measurement steps within the program.
34. System should be quoted with dual-injector
35. 3 Years of Comprehensive Warranty must be included.
36. System must be provided with suitable computer, UPS and table.
37. System must be provided with Class AII biosafety Cabinet for safe operation inside BSL3.

Terms and conditions:

1. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.

2. The quotations should be on FOR-IISc Bangalore basis in INR only.

3. The quotations should be submitted in two bids system; i.e., Technical bid, and Commercial bid.

4. The technical bid must include all details of technical specifications of the instrument along with commercial terms and conditions masking only the price component. Bill of materials, brochures, technical datasheets, and any other document may be enclosed to help the evaluation of the technical bid. Please also include warranty terms and any other information on upgradation terms in the technical bid.

5. The commercial bid must include the price of the instrument in Indian currency indicating break up of: Installation, commissioning and training charges, including any incidental expenses, if any.

6. Price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (fixed and ready to use) in our facility.

7. Both the Technical and Commercial bid should be put in separate sealed envelopes, and put together in another cover stating "**High Content Screener and Multimode Plate Reader**" and should reach us on or before 17:00 hours 20th-August-2021

8. The vendor should have a good track record of having previously supplied at least 10 **High Content Screener and Multimode Plate Readers** in India in last two years (please furnish details)

9. The vendor should have team of dedicated engineers for application and service support based out of Bangalore

10. The lead time for the delivery of the equipment should not be more than three months from the date of receipt of purchase order

11. The validity period of the quotation should be 90 days

12. If the goods are found to be defective, they have to be replaced or rectified at the cost of the supplier within 30 days from the date of receipt of written communication from us. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

13. The purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time period to award of construct without thereby incurring any liability of the affected bidder or bidders

14. Please submit the proposal to the following address: The Chair, Department of Microbiology and Cell Biology, Indian Institute of Science, C. V. Raman Avenue, Bangalore 560012.