DEPARTMENT OF BIOTECHNOLOGY

Indian Institute of Technology, Madras, Chennai, 600 036.

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Telephone No.22574126, 22574101, FAX No.22574102

Date: 4th Jan 2021

Professor: GUHAN JAYARAMAN

Ref: BT/GUHA/2020/011/SPL   **Due Dt. 25th Jan 2021**

1. Quotations are invited in duplicate for the various items shown below/overleaf/ enclosed list.

2. The quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.

3. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.

4. If the item is under DGS & D Rate Contract, Rate Contract Number and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the rate contract price. If so, please send copy of the R.C. (Please note that we are not Direct Demanding Officers).

5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for should be submitted free of charges and collected back at the supplier's expenses.

6. **Local Firms**: Quotations should be for free delivery to this Institute. If quotations are for Ex-Godown, delivery charges should be indicated separately.

7. **Firms outside Chennai**: Quotations should be for F.O.R Chennai. If F.O.R. Consigner stationer freight charges by passenger train/lorry transport must be indicated. If Ex-Godown, Packing, forwarding and freight charges must be indicated.

8. The rates of Sales/General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales/General Taxes will be admitted at any stage and on any ground whatsoever. The taxes liveable should take into consideration that we are entitled to have concessional sales tax applicable to non-government educational institutions run with no profit motive for which a Concession. Sales tax certificates will be issued at the time of final settlement of the bill.

   Preparation of Bids: - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.

9. Goods should be supplied carriage paid and insured.

10. Goods shall not be supplied without an official supply order.

11. **Payment:** Every attempt will be made to make payment within 30 days from the date of receipt of bill/acceptance of goods, whichever is later.

Specifications of Multi mode microplate reader

A Dual Monochromator based Multi detection microplate reader with three detection modes such as UV-   Vis Absorbance, Fluorescence Intensity (Top & Bottom Read) Glow Luminescence (Top & Bottom   Read) as primary mode detection. Triple mode vertical cuvette port for Absorbance, Fluorescence and   Luminescence measurement.

Microplate and Cuvette should be built in single system, capable of measuring end-points, kinetics,   spectrum scanning, well scanning for all the modes.

System should be capable of reading absorbance and fluorescence in standard, commercially-available   cuvettes and microcuvettes, 12 x 75 mm test tubes, and 96- or 384-microplates. The reader should   contain a built-in Cuvette port and a microplate drawer and all reads can be performed with a single wavelength selection operation.

1.General Photometric Performance

Plate formats	: 6, 12, 24, 48, 96, 384 wells and vertical Cuvette Port
Light Source	: Xenon Flash Lamp (1joule/flash)
Detector	: 2 Photomultiplier tubes
Read time - <u>96-well</u>	: Absorbance-18, Fluorescence-17, FP- 42 and Luminescence- 2:00 seconds
<u>384-well</u>	Absorbance - 49, Fluorescence-48, FP- 2:03 and Luminescence- 7:00 seconds
Shaker Time	: 0 to 999 seconds
Temp Control	: 2°C above ambient to 60°C
Temp Uniformity	: < 1°C at 37°C set point
Temp Accuracy	: +/- 1°C at 37°C set point,
Reading Modes	: End Point reading / Kinetic reading / Spectral, Scanning for all modes
Well Scanning	: Absorbance, Fluorescence (Top and bottom), Luminescence (Top and bottom)

2. Absorbance Photometric Performance

Reading Capabilities : Cuvette or Microplate,

Wavelength range : 200-1000 nm,

Wavelength selection : Monochromator, tunable in 1.0nm increments

Wavelength bandwidth : ≤4.0nm,

Wavelength accuracy : +/- 2.0nm,

Wavelength repeatability : +/-0.2nm

Photometric range : 0 to 4.0 OD,

Photometric Resolution : 0.001 OD,

Photometric Accuracy (Microplate) : < +/- 0.006 OD+/- 1.0 %, 0-2OD,

Photometric Accuracy (Cuvette) :< +/- 0.005 OD +/- 1.0 % , 0-2 OD,

Photometric precision : <+/- 0.003 OD +/- 1.0 %,0-2 OD,

Photometric Baseline Flatness : < 0.001 OD,

Stray Light : < 0.005 % @ 230nm

Path length Correction : System should have path length corrections in stand alone mode, hardware system as well s through software

3. Fluorescence Intensity Reading Performance :

Reading capabilities : Cuvette, top and bottom of a microplate

Wavelength range : 250 – 850nm,

Wavelength Selection : Monochromators, tunable in 1.0nm increments,

Bandwidth (EX, EM) : 9nm, 15nm,

Sensitivity : < 1 pM Fluorescein in 96 well and/or Cuvette
- < 1.5pM

in 384 wells.

4.Luminescence Performance

Reading capabilities : Cuvette , top and bottom of a microplate,

Wavelength range   : 250 – 850nm,

Wavelength selection   : all wavelength or with selected Wavelengths

Sensitivity   : < 2fg/well lower detection limit for firefly luciferase   in 96 and 384 well top read,

Cross-talk   :   < 0.3 % in white 96- and 384- well microplate

Auto PMT : System should have Automatic Photomultiplier Tube (PMT) setting that adjusts the optimum voltage for each well's sample concentration and then normalizes the raw data to show Relative Fluorescence Units (RFU) values

5. Data Acquisition :

Software integrated system which provides data acquisition, analysis and management capabilities, allowing cross-plate analysis and custom calculations. The system should have a temperature independent path check technology built in hardware and software to reproduce the data similar to that of 96 and 384 cuvette values as in spectrophotometer and without a need to export the data to a spreadsheet.

6.General Accessories :

Warranty – 3 years from the date of installation

Suitable PC should be supplied along with the system

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