DEPARTMENT OF BIOTECHNOLOGY – INDIAN INSTITUTE OF TECHNOLOGY
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Dr.KARUNAGARAN
Prof & Head

Date: 16th Jan 2015

Ref: BT/SMAH/ 2014/034/SPL
Due date: 30th Jan 2015

Terms and Conditions

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 ExGo down, 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-Go down, Packing, forwarding and freight charges must be indicated.

8. The rates of Sales/General Taxes and the percentage of such other taxes legally livable 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 livable 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.

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 late

Specification

1. An integrated system for both Real-Time PCR & post-PCR (end-Point) analysis using in-built peltier based PCR Machine.
2. It should be possible to use computer for system control, operation, analysis, net-working of multiple system.
3. **Thermal Cycling System :**
    - Peltier-based
    - Instrument should be quoted with 96 well block.
    - Instrument must also have option to upgrade to 384-well and no service visits or re-calibration are necessary after a block change.
4. **Optical System :**
    - Detection by CCD/PI camera and excitation by Halogen/LED lamp.
    - The light source should be user-interchangeable that is readily accessible and can be replaced from the front of the instrument.
    - Should have more than 5 excitation (450–670 nm) and 5 emission (500–720 nm) filter sets to enable collection of up to 10 unique combinations of wavelengths during a single run for multiplexing.
    - System should able to collect data for all filters for all wells regardless of plate setup.
5. **Sensitivity :** The system should be able to detect 1 copy of template for a single reaction
6. **Chemistry support:** The instrument should be open system capable of running various chemistries so that different chemistries using TaqMan, SYBR green etc. The instrument software will allow both TaqMan® and SYBR® chemistries in the same run by collecting different filter colors for PCR versus melt curve stages.
7. **Data:** The instrument software provides raw fluorescent data and multicomponent (segregated by dye type) data for troubleshooting of experiment.
8. **Dyes Calibrated:** System should provide an option to use more than 10 different Dyes

combinations. The system should provide addition of new dyes without any hardware change within the wavelength range.

9. **Passive reference Dyes:** Any calibrated dye preferably ROX should be used as Optional use of passive reference dye for normalization.
10. **Run Time:** The instrument should be designed to complete a 40 cycle real-time PCR reaction and fast chemistries in a 384-well plate on Fast block in under 35 minutes. Instrument can also run in standard ramping mode with standard chemistry.
11. **Reaction volumes** : 5-20 µL for 96 well
12. **Ramp Rate** should be adjustable
13. **Temperature Range** : 4°C - 100°C
14. **Uniformity** : +/- 0.50°C
15. **Supported plastic ware :0.1ml 96 well Plate/ Single tubes with caps/8tubs strips**
16. **Consumable support: Vendor** is able to supply all the necessary consumables to perform real-time quantitative PCR and SNP genotyping, including PCR reagents designed for use with the fluorogenic 5' nuclease assay, PCR reagents designed for use with SYBR® Green I dye assay chemistry, fluorogenic probes, reaction plates and adhesive plate sealing covers. PCR reagents are also available with an optional passive internal reference ROX dye to minimize well-to-well variability. The supplier should also be able to design and provide the TaqMan assays for the DNA/small RNA (Custom Assays) templates of our interest
17. **Installation Specification**: The instrument has real-time quantitative PCR installation specifications which demonstrate the ability to distinguish between 6,667 and 10,000 template copies 1.5 fold sensitivity) with a 99.7% confidence level.
18. **Softwares Application :**

- Absolute quantitation
- Relative quantitation
- High resolution Melt curve.
- Allelic discrimination/SNP (Single Nucleotide Polymorphism) detection
- Plus/minus assays that utilize internal positive controls

19. Primer & probe designing software that designs probes and primers in a manner such that PCR is carried out under universal thermal cycling parameters irrespective of template DNA to eliminate the optimization of PCR condition for running 96 different samples on a

single 96 well plate in a single run should be provided.

20. **Training, service and application support: The** Vendor should have a good service and application support back up along with Instruments to provide an effective application related troubleshooting and support**.** The Vendor should provide comprehensive Training at training centre on the operation of the instrument, Chemistry options and software