



Date: 01-12-2022

Corrigendum (5)

Global Tender AIIMS/R/CS/Bio/03-259/GTE date: 29-09-2022.
Ref. No.:
Tender ID No.: 2022_IMSRP_715482_1
Tender Name : Global Tender for supply and installation of Digital Polymerase Chain
Reaction System (PCR) for Department of Biochemistry at AIIMS Raipur

Existing Technical Specifications:

A. Digital PCR System

1. The Digital PCR system should be a fully integrated automated platform with either micro fluidic nanoplate or microchamber based or droplet-based technology. System should be able to perform Partitioning, Cycling, and Acquisition (Imaging) in Single Integrated System.
2. The system should be able to partition each sample into minimum 20,000 uniform partitions /microchambers / nanoliter droplets for each sample and PCR should be carried out to end point in the system.
3. System should be able to perform various applications such as rare DNA or RNA target detection, determine copy number variation, NGS library quantification, viral load detection etc. System should also offer absolute quantification of the target.
4. The system should stream single file through the reader for fluorescence analysis.
5. Positive microchamber/Droplet, should contain at least one copy of the target DNA or RNA molecule, to exhibit increased fluorescence compared to negative droplets.
6. The fraction of PCR-positive partitions should enable the target to be quantified.
7. System should have minimum of 2 detection channel (FAM, HEX/VIC).
8. System should use LED (Light-emitting diodes) for sample illumination.
9. Sample image acquisition should be either through a CMOS camera or PMT or multiple photon counter.
10. Starting reaction volume should be up to 40ul
11. There should be Provision of running samples in a combination of 4 wells only uses per run (NTC, PC, NC and patient's sample). Unused wells / chambers (per plate) should be usable for subsequent patient's sample to prevent wastage of PCR plate.
12. System should provide Precision of $\pm 10\%$.
13. System should be able to detect mutant/variant for the frequency of up to 0.1% on the background of 10,000 wild type copies.

B. Digital PCR system should be equipped with onboard control software.

1. Software should display fluorescence measurement per droplet/microchamber/partition in all detection channel (FAM and HEX Channel)
2. Software should offer Shows multiplex data for minimum two fluorophores per droplet
3. Should Offer Absolute quantitation & copy number variation analysis
4. Latest available, Licensed version of the Application Software should be supplied for the complete warranty & CMC period (5+5 years) .
5. System software should allow users to access all images acquired by the Digital PCR system for each channel.
6. Software of the system should offer display of fluorescence measurement, show multiplex data, graphical and tabular representation of data, data acquisition and analysis, report generation, export results, etc.
7. Data graphs and tables should be able to be exported into Excel and should also be

printable from menu.

8. Software should compute concentration in copies/ul for each sample from replicate wells
9. Software should automatically set thresholds across the entire plate or for individual wells. Additionally, the user should also be able to manually set threshold for entire sample plate or for individual samples
10. Time to result should be less than 2 hours

C. Digital PCR Reagents:

All the required consumables and reagents (like Cartridges and Gaskets, Digital PCR plates, Fluidics verification kit, Spectral verification kit, buffer control kit, Calibration Dye, oil for droplet generation) and **any other accessories** for processing and analysis should be quoted along with the suitable control kit. Subsequently if it is realized that any consumable needed for sample processing and analysis, is not listed or quoted, has to be supplied by the vendor free of cost.

- D. **Micropipette (2 quantity of each) with corresponding tip boxes of the volume** 100 ul , 1000 ul , , 20 ul , 200 ul and 5-50 ul , are to be supplied along with. The same should be calibrated from NABL accredited laboratory at 6monthly basis along with calibration certificates for entire period of warranty and CMC.
- E. Machine should be supplied with Latest and factory recommended computer with laser printer & scanner should be provided for data acquisition & analysis. System should be inclusive of all required hardware, software, drivers, adequate storage and RAM modules.
- F. 3 KVA online UPS and a 2 ton 5* Split AC should be provided with the system.
- G. Warranty of 5 years should be provided. Price for CMC for 5 years post warranty should be freeze during quotation. Warranty should cover integrated system, UPS, Computer, scanner and AC.
- H. Final installation certificate would be issued by the department after proper training of manpower at installation site. The consumables and reagents required for the onsite training is to be borne by the supplier.

Technical Specifications to be read as:

A. Digital PCR System

1. The Digital PCR system should be a fully integrated automated platform with either micro fluidic nanoplate or microchamber based or droplet-based technology. System should be able to perform Partitioning, Cycling, and Acquisition (Imaging) in Single Integrated System.
2. The system should be able to partition each sample into minimum 20,000 uniform partitions /microchambers / nanoliter droplets for each sample and PCR should be carried out to end point in the system.
3. System should be able to perform various applications such as rare DNA or RNA target detection, determine copy number variation, NGS library quantification, viral load detection etc. System should also offer absolute quantification of the target.
4. The system should stream single file through the reader for fluorescence analysis.
5. Positive microchamber/Droplet, should contain at least one copy of the target DNA or RNA molecule, to exhibit increased fluorescence compared to negative droplets.
6. The fraction of PCR-positive partitions should enable the target to be quantified.
7. System should have minimum of 4 detection channel.
8. System should use LED (Light-emitting diodes) for sample illumination.
9. Sample image acquisition should be either through a CMOS camera or PMT or multiple photon counter.
10. Starting reaction volume should be up to 40ul.
11. There should be Provision of running samples in a combination of 4 or more wells without wastage of any well uses per run (NTC, PC, NC and patient's sample).
12. System should provide Precision of $\pm 10\%$.
13. System should be able to detect mutant/variant for the frequency of up to 0.1% on the background of 10,000 wild type copies.

B. Digital PCR system should be equipped with onboard control software.

1. Software should display fluorescence measurement per droplet/microchamber/partition in all detection channel.
2. Software should offer Shows multiplex data for minimum of two fluorophores per droplet/microchamber partition.
3. Should Offer Absolute quantitation & copy number variation analysis
4. Latest available, Licensed version of the Application Software should be supplied for the complete warranty & CMC period (5+5 years) .
5. System software should allow users to access all images acquired by the Digital PCR system for each channel.
6. Software of the system should offer display of fluorescence measurement, show multiplex data, graphical and tabular representation of data, data acquisition and analysis, report generation, export results, etc.
7. Data graphs and tables should be able to be exported into Excel and should also be printable from menu.
8. Software should compute concentration in copies/ul for each sample from replicate wells
9. Software should automatically set thresholds across the entire plate or for individual wells. Additionally, the user should also be able to manually set threshold for entire sample plate or for individual samples
10. Time to result should be between 2-5 hours.

C. Digital PCR Reagents

All the required consumables and reagents (like Cartridges and Gaskets, Digital PCR plates, Fluidics verification kit, Spectral verification kit, buffer control kit, Calibration Dye, oil for droplet generation) and **any other accessories** for processing and analysis should be quoted along with the suitable control kit. Subsequently if it is realized that any consumable needed for sample processing and analysis, is not listed or quoted, has to be supplied by the vendor free of cost.

D. Micropipette (2 quantity of each) with corresponding tip boxes of the volume 100 ul , 1000 ul , , 20 ul , 200 ul and 5-50 ul , are to be supplied along with. The same should be calibrated from NABL accredited laboratory at 6monthly basis along with calibration certificates for entire period of warranty and CMC.

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G. Warranty of 5 years should be provided. Price for CMC for 5 years post warranty should be freeze during quotation. Warranty should cover integrated system, UPS, Computer, scanner and AC.

H. Final installation certificate would be issued by the department after proper training of manpower at installation site. The consumables and reagents required for the onsite training is to be borne by the supplier.

Note: 1. All other terms & Conditions will remain unchanged.

Sr. Proc. cum Stores Officer,
AIIMS, Raipur (C.G.)