MAHAVIR CANCER SANSTHAN AND RESEARCH CENTRE, PATNA

TENDER No. – 1772

Sealed Quotations are invited from reputed supplier/manufactures for Applied Biosystem Seq Studio Genetic Analyzer with all accessories for research and diagnostics purpose at Mahavir Cancer Sansthan, Patna within 7 days from the date of publication of tender. For details, visit hospital's website : www.mahavircancersansthan.com

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Director (Admin.)

Ref. No - 1772 Date 04/02/2026

Applied Biosystem Seq Studio Genetic Analyzer of Thermofisher with all accessories for research and diagnostics purpose.

Specification SeqStudio Genetic Analyzer – Automated Multi-capillary, Fluorescence-based Genetic Analysis system

1. Instrument should be fully automated 4-capillary, fluorescence-based genetic analysis system to process multiple samples in single run with the validated capability to detect and analyze sequencing and simultaneously for DNA fragment analysis data.
2. Instrument should be a bench top instrument to support various applications like: Genomic Sequencing, de novo/re-sequencing, Gene Expression, Targeted Sequencing (Variant Validation) and Microbial Identification, MSI, Fragment analysis applications.
3. System should be provided with one universal polymer and one array feature for sequencing and fragment analysis to enable both the applications on the same plate with walk away automation.
4. The system should use all-in-one integrated cartridge which includes polymer, capillary arrays, and buffer for ease of use and minimize instrument setup and maintenance. The Integrated cartridge should have on instrument shelf life of 6 months or more and should be able to perform 250 injection/ 1000 samples run without further replenishment and maintenance.
5. The system software should support to run sequencing and fragment analysis application on the same plate.
6. The system should use RFID for tracking and reporting of the consumables with no requirement of an external barcode reader.
7. The system should be stand-alone instrument with touch screen interface for computer independent operation. The system touch screen should have functionality to create and run protocols; load run files from USB or an online ecosystem; to designate destination of run files to the USB port or an online ecosystem; pause and resume the run in progress and allow users to edit sample and target assignments.
8. The system should be compatible with 96-well standard plate and standard 8-tube strips.
9. System should have Autocalibration feature utilizing sample-specific spectral data and does not require calibration every time capillary cartridge changed onto the system.
10. System should be enabled for remote monitoring via a mobile device or networked device & remote troubleshooting allows for remote monitoring and data visualization for faster resolution.
11. System should have Flexible connectivity via Local Area Network (LAN), Wi-Fi, USB, and is LIMS compatible. System should be able to Connect Platform with cloud-enabled capability. System should be enabled for remote monitoring via a mobile device or networked device & remote troubleshooting allows for remote monitoring and data visualization for faster resolution.
12. The system software should be designed with a touchscreen software interface for instrument control to regulate the functions of the instrument, automatically perform primary analysis (i.e., base calling and/or fragment sizing) and provide functionality for real-time data assessment as well as the ability to generate quality control reports.
13. The system should contain on-board storage capability with memory capacity of 128GB for storing approximately 3,500 injections data or 14,000 reactions.
14. The system's touch screen interface should allow for creation of local User Accounts with PIN-protected access. Individual User Accounts can be linked to online accounts within an online ecosystem.
15. The system should come with specific secondary analysis software provided by the same manufacturer for reference-based and non-reference-based analysis to call SNP's, insertions, and deletions. resequencing, mutation detection and analysis, SNP discovery and validation, allele identification and subtyping, minor variant detection & Genotyping, STR analysis.

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16. Fragment Analysis software should be provided with flexible genotyping software that enables DNA sizing and quality allele calls. This software should specialize in fragment analysis and sequencing applications like multi-application functionality including Amplified Fragment Length Polymorphism (AFLP), Loss of Heterozygosity (LOH), microsatellite, SNP genotyping analysis.

17. The vendor must supply software's along with the instrument in the area of de novo, comparative sequencing, Long Read Sequencing and Resequencing, Minor variant finding software, fragment analysis applications like Microsatellite, SSCP, HMA (Heteroduplex Mobility Assay), Linkage analysis, LOH (Loss of Heterozygosity), SSCP, SNP validation and screening, Micosatellite Instability (MSI) Analysis, Bacterial identification, Gene edit confiramtion, NGS confiramtion.

18. The manufacturer should have fully functional lab within the region for providing the efficient after sales and service support.

19. Type & Airflow-Class II Type A2 Biological Safety Cabinet with vertical airflow. 70% air recirculated through HEPA filter, 30% exhausted.

20. Size-Approximately 4 feet wide working area (±10%).

21. Construction-All interior and exterior parts must be painted. Work tray should be made of single piece stainless steel. Inner side and rear walls can be made of Stainless stell or cold rolled steel. Smooth, corrosion-resistant, and easy to clean. Front window must be a 10" sash opening and be made of laminated safety glass.

22. Air Filtration-HEPA filters of Class H14 as per EN 1822 or higher with minimum 99.995% efficiency at 0.3 µm particle size. Should provide certificate along with Machine.
23. Motor System-Dual energy-efficient DC motors. AC motors are not acceptable.
24. Display-Intuitive minimum 7" touchscreen interface to support real-time alarm and inflow and downflow air velocities, working hours, and operational status.
25. Microprocessor Control-Integrated microprocessor controller with alarms for low airflow, HEPA filter failure, sash position error, and blower malfunction.Programmable UV light enables timed disinfection cycle run.
26. Lighting-UV germicidal lamp (programmable 0–24 hours) with automatic shut-off. Work area light should be fluorescent or LED. Programmable UV light enables timed disinfection cycle run.
27. Noise Level-Less than 65 dB(A), measured at 12 inches in front and 15 inches above work surface.
28. Safety Alarms-Audible and visual alarms for airflow failure, HEPA filter failure, blower malfunction, and incorrect sash position.
29. Ventilation Volume-Inflow and exhaust air volume approximately 300–350 CFM. Night Stand-by Mode reduces energy consumption by approximately 60% during low usage periods.
30. Mobility & Mounting-Freestanding benchtop unit with anti-vibration design and leveling feet or lockable caster wheels.
31. Accessories-UV light, Armrest, Manual Adjustable Stand.
32. Certifications-NSF/ANSI 49, CE, and UL certifications. NSF listing should be verifiable online.
33. Quality Standards-Manufacturers should comply with ISO 9001 and ISO 13485 standards.
34. Compliance-All stated features must be clearly documented in the product data sheet or user manual at the time of bid submission.

- The system Should be capable to use 96 well PCR plates / 8 x 12 PCR Strips /96 x 0.2ml tubes.
- The system should support volumes ranging from 10 – 100 µl / tube.
- The System should have 3 separate Peltier blocks to provide precise control over the temperature that is set for the PCR Optimization.

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- System should be able to run up to 3 separate temperatures in one run to determine optimal annealing temperature.
- Each peltier block to accommodate 32 wells and having the ability to set up PCR with a specific temperature differential of up to 30 °C.
- Programmable Heat Lid: Heated lid should be programmable between 30 to 110°C to perform oil free PCR.
- Ramp Rate: Instrument should have max. Block ramp rate of 3.5.0°C and Max. Sample ramp rate of 2.5°C or More.
- The PCR system Should equipped with Simulation Modes that mimic your old thermal cycler's ramp rate.
- The thermal cycler should have programmable ramp rate. The system to support Block Temperature Range starting from 0°C – 100°C.
- The system to have a Temperature Accuracy ± 0.25 °C at 35°C – 99.9°C and Temperature Uniformity < 0.5°C 30Sec's after reaching 95°C.
- Programming: The system should have in built 5 inch TFT LCD with touch screen programming panel, allowing for easy intuitive graphical user interface.
- Memory: The system to have provision to > 1000 Protocols in the instrument.
- Instrument power supplies should be 100–120 VAC, 200–240 VAC, 50–60 Hz, Maximum 700 W.