

Name of the Item: High Throughput Microarray System

Technical Specification:

A complete setup of High Throughput DNA/RNA Microarray System (include instrumentation, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for establishment of Ocular Genomic Microarray facility.

1. Applications of DNA/ RNA Microarray System

The hardware and software of the system must be capable to do the following applications

Related to genomic array:

- CGH arrays
- Gene expression (m-RNA) arrays
- miRNA expression arrays
- SNP/ CNV combined array
- Copy number variation arrays
- Exon array
- Methylation analysis
- Chip-on Chip arrays

DNA/ RNA Microarray System: Microarray system should include Scanner along with Workstation for Data Analysis,Hybridization Oven, Barcode Reader and Auto Loader etc.

- System should have chip/ slide array technology or any other better technology
- System should have laser excitation source and optics for scanning arrays with high resolution, fast scan times and to produce high quality reproducible data.
- Scanner resolution should be 3 micron or better.
- Scanner should be able to scan different types of arrays/ chips with fast scan times.
- Optical system should enable high-resolution performance.
- System should be supplied with Hybridization unit, Barcode reader and Autoloader for Processing and scanning the arrays/chips. All should be from same manufacturer.
- System should be supplied with a dedicated liquid handling platform which should be able to offer the following applications.
 1. Automate DNA / RNA extraction
 2. Should be able to perform serial dilution
 3. Should have 8 or more deck positions
 4. The system must offer 96-well tip head, upgradable to 384 well tip head
 5. The deck positions should offer options for heating / cooling / shaking etc.
- System should be able to scan variable chip formats such as 1/2/4/8/14.

- System should have array capability to support multiple applications for Human, Animal, Bacteria and Plants.
- Suitable branded computer with all accessories along with suitable software to control the complete system and data analysis.
- The system should be open and should be compatible with third party reagents and microarray chip.
- The system should be compatible for protein, peptide and antibody microarray.
- The following software's should be provided along with the system.
 1. Licensed software (5 years License) capable of analyzing Gene Expression, mi-RNA gene expression, exon splicing and copy number analysis. The software should also be capable of multi-omics data analysis.
 2. Software for Cyto-genetic research. Should be able to offer workflow for finding CNC, LOH and UPD.
- All necessary reagents and consumables (along with arrays) as mentioned below should be provided along with the Instrument.
 1. 100 - Catalog Gene expression Arrays (Human / Mouse / Rat)
 2. 25 – Custom Gene Expression Arrays.
 3. 25 – Custom Cyto arrays
 4. 25 – Custom SNP + CGH Arrays
 5. 50 – Catalog Cyto Arrays
- All reagents and consumables required for doing QC of the above mentioned arrays should be supplied along with the machine.
- All Real Time PCR reagents and consumables required for doing the validation of the above mentioned arrays should be supplied along with the machine
- The Manufacturer of scanner should also be manufacturer of Arrays.
- Onsite application training of all staff and continuous technical support from qualified Application scientist & service engineers should be provided by vendor.
- To validate the Microarray data a 5-color fast RT-PCR along with HRM capability should be provided along with the machine.
- Branded, preferably APC/ Hitachi 5 KVA online UPS with 30 minutes backup to support the entire system.
- To check the Quality of starting material before proceeding for Microarray a DNA / RNA QC Instrument with the following specifications should be provided along with the machine.
 1. Should be Microfluidics based, High-throughput system capable of analyzing 96 samples at a time. Must be able to accommodate 96-well plates.

2. System must be chip based electrophoresis system with dedicated kits for DNA / RNA QC.

Instructions:

- No optional offers must be quoted.
- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.
- Vendors are instructed to follow the exact sequence of items as listed/ mentioned in the tender specification sheet/s for quoting their tender. The quoted tender for technical bid and price bid will be summarily rejected, if the quoted specification compliance sheet/s not found according to the sequence of the items as listed in the tender specification. In the compliance sheet, it should be in the format of "Yes/No" and reference page no. of brochure should be mentioned to claim their specification.
- Please quote only for New Branded machine/s. If it will be found during any period of time that Refurbished/Repaired/Second Hand instruments has supplied and installed instead of new branded machines, an immediate action will be taken against the distributor/ manufacturer as per the rules and regulations of AIIMS. And both distributor and manufacturer will be black listed for forever for supplying any kind of instruments to the Government's Research Organization, Hospitals, Laboratories etc. in any where in India.
- Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.
- The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer's technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer's website.
- A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.
- If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.

- Please mention about the superior performance details of any unique technology adopted/ design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
