

Next Generation Sequencer

Specifications:

1. System should be able to perform applications like Whole genome sequencing (smaller and higher genome), Transcriptome Sequencing/ RNA sequencing, target sequencing, Exome sequencing, Chip sequencing, Methylation and gene Expression Profiling.
2. System should be offered as a single, integrated instrument capable of performing template DNA amplification and sequencing onboard on machine, and support unattended operation of sequencing cycles.
3. The sequencing chemistry should employ robust Sequencing By Synthesis method using nucleotides with reversible terminators and should mimic natural biological chemistry with simultaneous addition of all in the sequencing reaction for competitive addition to the DNA template.
4. The sequencing workflow should allow fully automated, walk-away operation, without user intervention, for template amplification to sequencing on a single machine.
5. System should offer flexible data output from 10 - 100 Gb with high-quality data.
6. Sequence output should generate accurate base calls and high error free reads with greater than 75% bases with high quality score.
7. Clonal amplification of DNA template should employ accurate amplification methodology, should be fully automated.
8. The sequencer should be able to read through at least 15 bases homo-polymer stretches in the genome accurately.
9. The sequencing chemistry should be robust and globally proven, as demonstrated with good no. of peer reviewed publications.
10. The system should be offered with integrated paired-end fluidics on the instrument, supported with fully automated paired-end chemistry, without user intervention.
11. System should offer the user-friendly sequencing experience, such as, intuitive touchscreen user interface, RFID tracking and pre-mixed/pre-filled integrated reagent cartridge for minimal user intervention.
12. Accessories for Next Generation Sequencing
 - a. Suitable system for high throughput data analysis and storage.
 - b. Automated electrophoresis for DNA, RNA and Protein analysis.
 - c. Ultrasonicator (DNA fragmentation for library preparation)
 - d. Cuvette free UV-Visible spectrophotometer (DNA, RNA and protein quantification)
13. Please provide Indian users list with complete information.
14. Comprehensive warranty should be 3-5 years.