

NEXT GENERATION SEQUENCER

1. This system should be designed for use in Forensic Genomic Application with accuracy for degraded or mixed forensic samples such as semen, blood, saliva, hair, tissue, tooth and bone where DNA quantity is limited.
2. The complete automatic system from DNA-to-data generation, for the analysis of 96 forensic DNA sample in a single sequencing run, with a minimum of 125 picogram DNA input and should be capable of generating Autosomal STR, Y-STR, X-STR as well as Single Nucleotide Polymorphism (SNPs), phenotype SNPs and biological ancestry SNPs. System should have assay for mitochondrial DNA sequencing.
3. The NGS should be supplied with analysis software and dedicated server that could deliver a powerful suits for forensic analytical capabilities including automatic detection of mixed DNA samples, generation of population statistics and CODIS compatible reports as well as optional offline reports to enable flanking region analysis. This software provided should perform automated data visualization and reporting with simple graphical user interface. This software should also enable estimation of visible traits and bio-geographical ancestry markers that can provide crucial investigative leads in “No Suspects” cases.
4. This system should provide DNA sample preparation kits which include all reagents and accessories required to prepare DNA libraries for sequencing. The supplier should provide complete kit for 600 samples (for autosomal STR, Y-STR, X-STR, Identity SNPs) and 100 samples (for mitochondrial DNA analysis) with RFID labeled all reagents and necessary consumables, plastic ware etc. to run NGS system.
5. The vendor should supply specific vibration free table for the installation of NGS system along with online and offline computer system and other accessories connected to NGS.
6. The vendor should provide quote for the necessary entry of the critical spare parts required for the instrument.
7. The vendor should undertake to supply the reagents to be used with the machine upon every demand raised by the user for at least 10 years from the purchase of machine even if the machine become obsolete and discontinued.
8. The vendor should undertake to supply the spare parts (including critical and others) to be used with the machine upon every demand raised by the user for at least 10 years from the purchase of machine even if the machine become obsolete and discontinued.
9. OEM should provide service and application support in India. The supplier should provide technical/application support for initial 6 months.
10. Onsite technical training at CFSL, Chandigarh for a period of 2 month to enable Forensic Scientists to operate the system independently.
11. System should be complete with all accessories to run the system properly at the time of installation.
12. Future upgrades in the instrument or chemistry should be provided at no extra cost.