



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
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**Detailed Technical Specifications for Automated Nucleic Acid Electrophoresis**

Technical specifications for Automated Nucleic Acid Electrophoresis platform:

- 1) The automated electrophoresis machine should be compatible for analysis of genomic DNA and RNA using small-scale gel electrophoresis.
- 2) The system should be compatible for both DNA and RNA quality control assays without requiring any changes to the hardware of the equipment.
- 3) The system should provide detailed quality control analysis compatible with downstream applications such as Next Generation Sequencing and Transcriptome analysis.
- 4) The system should be compatible for both genomic DNA, small DNA fragments and total RNA extracted from all cell types and embryos.
- 5) The machine should be able to process 1 to 16 samples per run with the rapid analysis time of ~1 to 2 minutes per sample.
- 6) The system should require small sample volumes of 1 to 2  $\mu\text{L}$  per electrophoresis run.
- 7) The Latest updated software for running the automated electrophoresis machine should be included.
- 8) Accessories required for automated gel electrophoresis such as vortex mixer, sample holder, electrophoresis strip, waste disposal system, etc. should be included and integrated into the equipment where applicable.
- 9) Consumables required to run the automated gel electrophoresis such as system compatible optical tube strips and caps, loading tips etc should be included.
- 10) The Automated electrophoresis machine should operate unattended – fully automated processing of 1 to 16 samples.
- 11) Where applicable, the machine should have hardware diagnosis possible to ensure smooth operation.
- 12) Fully integrated computer system/Laptop with minimal specifications such as I5-8350CPU@1.7Ghz/1.90GHz,8GB RAM, Win 10 Pro 64 bit must be provided. The computer system must be covered by warranty.
- 13) The supplier must include minimum of 1 year-on-site warranty for the entire Automated Electrophoresis platform and all hardware parts of the equipment.
- 14) The supplier must ensure complete installation and demonstration of function at the time of delivery.