

Nucleic acid/protein work station consisting of below components:**1. CHEMIDOC Imaging System**

- Versatile system to support wide range of applications - Fluorescent dye like sybr green, sybr safe, Western blotting, 2-D, 1-D, Dot Blotting, Nucleic acid detection Densitometry with both fluorescent and colorimetric stains etc.
- Should have pettier based super cooled CCD camera (-30°C) with image resolution minimum 4 Mega Pixel.
- Pixel size should 6.45X6.45 or better.
- Image acquisition with automatic focus and iris adjustments at all zoom levels for all compatible applications.
- System should come with flat fielding technology for superior image uniformity and accurate quantization or equivalent.
- Dynamic range of more than 4 orders of magnitude.
- System should supplied with large UV trans-illuminator approximate 28 X 36 cm sample size area with white light conversion screen.
- Illumination control should provide with trans-UV, epi-white, no illumination for chemiluminescence are standard and system should have optional trans-white & blue conversion.
- System should be supplied with a UV protection shield to protect end user from unintentional exposure to UV light during band excision.
- Should have single software for image acquisition and analysis with no license registration and capability to install in unlimited computers with full functionality.
- The imaging system must be capable of imaging stain free protein gels & stain free blots allowing users to image protein gels and blots without the need of staining/destaining post running the gels. This should be supported by showing data in a technical bulletin or peer-reviewed publication.
- Should come with 1 D analysis software with following features:
 - Automatic generation of customizable reports
 - Snapshot tool to copy images, lane profiles, and graphs
 - Complete flexibility with automatic and manual detection of lanes and bands, using several algorithms
 - Easy copy/paste functionality, crop, zoom, 3D viewer, and colors.
 - Publishing resolution (dpi) and publishing dimension can be specified with a one-click image export for publication. Provides functionality to produce image at user-defined dpi and dimension
 - No requirement for license registration
 - Mac and Windows compatible software
 - 16-bit and 8-bit tiff images with a one-click export option

- System should have minimum 50 installations in India.
- Service Centre should be in Delhi/NCR
- **System should come with 3 year Warranty**
- **System should be supplied with a desktop from a reputable manufacture with atleast i3 processor, 4GB RAM, 1TB Hard Drive**
- **System should be provided with 2 KVA online UPS with standard 10-15 min back up**
- **System should be supplied with dual wavelength transilluminator with 254 nm & 365 nm with manufacture warranty**

2. Real Time PCR Specifications

- Real time PCR with block of 96 x 0.2 ml tubes or plate to Run typical 0.2ml tubes, strips, and plates.
- The base thermal cycler should be able to be used for standard PCR without switching on the optical module / LED to have a increased life time of the optical device.
- **System should be True Gradient enabled. With 8 different temperature zones**
- Minimum six excitation and Six emission channels Each filter should correspond to one dye that ensures smooth differentiation of dyes having high degree of spectral overlap.
- **Detection of 5 or more** different fluorescent reporters in the same tube.
- Should be capable of Detecting Cy5, FAM/Sybr Green, VIC/JOE, TAMRA/Cy3, Texas Red, Quasar705
- System should be able to collect data for all filters for all wells regardless of place setup.
- Ramping speed upto : 5 °C per sec with sample
- Peltier based Cooling & Heating for uniform temp control across the samples
- Should have a channel dedicated for FRET experiments
- Excitation –Emission range: 450- 730nm or broader.
- No internal reference dye should be required. True 5 Color Multiplexing with use of 5 different fluorophores without the need of addition of any internal reference dye,
- Excitation source should be LED & detection with filtered Photodiode
- Dynamic range of 10 orders.
- Open system capable of running various chemistries so that Different chemistries using TaqMan, Molecular Beacon, SYBR green etc all can be performed.
- Temperature range 0– 100 °C with accuracy of ± 0.2 °C and uniformity of ± 0.4 °C within 10 sec of arrival at 90 °C
- The system should be able to detect 1 copy of template for a single reaction.
- **Sensitivity- Detect minimum 1.5 fold differences in target quantities in singleplex reactions.**
- Minimum sample vol : 1 μ l & Max Sample volume 50 μ l
- Max Should detect ≤ 10 fmol of fluorescein

- Should have multiple scan modes with a FAST scan option for reading all wells in 3 seconds
- Automatic allelic discrimination by end point fluorescence or threshold cycle.
- Gene expression analysis by relative quantity (ΔCt) or normalized expression ($\Delta\Delta Ct$).
- End point analysis for upto 5 fluorophores
- Should have capacity to run Melt curve analysis
- Should be capable to perform dye binding thermal shift assays for protein unfolding analysis.
- Comparison of upto 5000 Ct values from different data files should be possible
- The amplification traces should be viewed on the LCD screen in real time while a run is in progress with touch screen facility.
- Software should have express load feature which allows entry of data after experiment.
- System should be compliant with the MIQE Guidelines
- System should provide the option of software which is RDML compliant
- The system Software should be capable of data collection, perform data analysis like t-Test, one way Anova in few mouse clicks.
- The system Software should be able to generate publication ready bar charts, volcano plots, box & whisker plot & annotate with p values .
- The system Software should be compatible with both windows and Mac environment
- The system Software should be license free or else 15 license copies of the same should be quoted.
- Additional Qbase+ or similar software premium license should be available along with the system for improved data analysis capacity.
- System should have more than 50 installation of the quoted model and should provide performance user certificate in the technical bid from reputed government organization.
- Service centre should be in Delhi/NCR and should provide service within 24 hours when needed
- System should be IEC, CE certified
- System should come with Syber master mix for 1000 reactions
- **System should come with 3 year warranty**
- **System should be supplied with a desktop from a reputable manufacture with atleast i3 processor, 4GB RAM, 1TB Hard Drive**
- **System should be provided with 2 KVA online UPS with standard 10-15 min back up**