

HANDS ON WORKSHOP ON REAL TIME PCR

Day 1: Module One - Introduction to Real-time PCR & Applications

Topics include: Fluorescence Principles, Absorption and emission of fluorophores; Fluorescence resonance energy transfer (FRET), DNA intercalating dyes, and Probe based detection strategies.

Practical Session I: Hands-on real-time PCR experience, Delegates set up their own SYBR Green real-time PCR reactions

Day 2: Module Two - Real-time PCR reaction setup

Topics include: Construction of a standard curve: Biostatistics principles; Linear regression , Standard melt curve analysis ,High resolution melt curve analysis

Practical Session II: Hands-on real-time PCR experience, Delegates set up their own SYBR Green real-time PCR reactions, Real-time PCR optimization ,

Day 3: Module Three : Analysis of Practical Sessions I and II

Analysis of SYBR Green real-time PCR results: Melt curve analysis , Compare results from practical sessions I and II , Identify factors affecting success of real-time PCR reactions: Primer-dimers; GLP aspects .

Amplification efficiency : Impact of efficiency of a PCR assay on the quantification results ,Role of amplification efficiency in validation of assays , Primer and probe design, and synthesis

Day 4: Module Four - Hands-on real-time PCR experience

Topics include: Practical Session IV: Hands-on real-time PCR experience , Delegates set up their own SYBR Green real-time PCR reactions: Generating standard curve , Real-time PCR instrumentation

Appropriate controls for real-time PCR reactions and assays .

Day 5: Module Five - Troubleshooting of real-time PCR reactions

Topics include: Data analysis of real-time PCR reactions: Step-for-step analysis, Absolute quantification, Relative quantification, Allelic discrimination, Plus/Minus assays.

Module Eight - Analysis of Practical Sessions III

Analysis of probe based real-time PCR results , Determine genotypes of samples

Analysis of Practical Sessions IV

Analysis of SYBR green real-time PCR results

Determine concentrations of unknown samples via absolute quantification method.

Eligibility : Students of Biotechnology/ Microbiology / Biochemistry / Forensic Sciences / Life Science background

Duration- Two Days (Saturday & Sunday-Full Time

Service Charges : Rs 4000 / - Per Attendee