Molecular Diagnostics
(Digital PCR and Sanger Sequencing in heath and disease)

02/12/2021
09:30AM-02:00PM

Quantitative PCR (qPCR) is the gold standard technique to measure cellular DNA and genomic DNA levels but the results may not always be reproducible due to protein or chemical contaminants inhibiting the taq-polymerase or primer annealing. So when dealing with samples with low levels of nucleic acids and variable amounts of chemical or protein contamination or when there is need to measure cell free DNA, ddPCR technology will produce more precise and reproducible result.

When we talk about genetic alteration, sequencing generates absolute proof of DNA alterations. That's why genome sequencing is an essential tool in molecular diagnostics. However whole genome sequencing generates mammoth magnitude of data which is difficult to process in absence of very good IT support and knowledge of bioinformatics. Here comes the role of Sanger sequencing and fragment analysis. This workshop will empower the delegate with the necessary theoretical and practical knowledge of Sanger Sequencing.

A stepwise workflow is required in both digital PCR and sequencing to obtain reproducible results. In this workshop, delegates would be exposed to these techniques and standardized workflow from the application specialists and scientists working in this field

28th NATIONAL AMBICON 2021

2nd to 5th December 2021

Time	Workshop Titles	Agenda	Speaker
09.30-09.45 AM	Welcome Note	The Agenda and brief introduction & understanding of the various topics covered in the workshops	AIIMS Coordinator/Committee
09:45-11:25 AM	Droplet digital PCR- A brief introduction, workflow and application	PCR overview and introduction to dd PCR,workflow,Instrumentation and data analytics, multiplexing in ddPCR , ddPCR vs Real time PCR , Advantages of ddPCR , applications in cancer genomics and genetic disorders	Dr Ajay Deepak Baskaran Field Application Specialist II Bio-Rad Laboratories (India) Pvt. Ltd.
11:25-11:45 AM	Introduction to CE: Sanger Sequencing and Fragment Analysis	An introduction to fundamentals of Capillary Electrophoresis techniques (Sanger Sequencing and Fragment Analysis) in Molecular Diagnostics	Dr. Sanjib Dey, Field Application Scientist Thermo Fisher Scientific
11:45 AM - 12:05 PM	CE Applications	Understanding various applications of Sanger Sequencing and Fragment Analysis, including applications in oncology, genetic disorders and SARS CoV-2 Research	Dr. Ashok Ayyappa Field Application Scientist Thermo Fisher Scientific
12:05-12:40-PM	CE Workflow Demonstration	Wet-lab demonstration of DNA Extraction, Sanger Sequencing and Fragment Analysis workflows	Deepti Saini Technical Application Specialist Thermo Fisher Scientific
12:40-12:45 PM	CE software	An overview of software for data analysis	Dr. Ashok Ayyappa Field Application Scientist Thermo Fisher Scientific
12:45-01:00 PM	Q and A	Q and A	All resource faculties
01:00-1:15 PM	Vote of Thanks	Workshop summary and vote of thanks	AIIMS Coordinator/Committee