

TRAINING IN EPIGENETICS / CANCER RESEARCH

Epigenetics is the study of chemical modification of specific genes or gene associated proteins of Principal type of epigenetic modification is DNA Methylation . Methylation can be transient and c aann cohagnagneis mra.p Tidhley dphuroisnpgh otrhyela tliiofen . s pan of a cell . Other largely permanent chemical modifications are histone acetylation and

The trainee will also be prepared to describe indications for procedures used in medical genetics and interpret results for families.

SCOPE OF THE TRAINING -

Molecular geneticists apply their extensive knowledge of molecular biology to study the function and structure of genes. They test for DNA methylation related to a range of diseases and disorders. They may also serve as consultants for clinical geneticists during the diagnoses of various disorders .

Biochemical geneticists identify and analyze defects that cause metabolic disorders.

TRAINING SYLLABUS

UNIT – 1

Understanding of epigenetic processes in common disease :

Epigenetic Studies & Diseases

DNA Methylation

UNIT – 2

Extraction of Nucleic Acid - Both DNA & RNA (Protocol optimized by Chemgeneics Research Foundation)

Quantitative & Qualitative Analysis of Nucleic Acid - DNA & RNA Electrophoresis , Gel Docking or imaging .

Quantitative analysis by spectrometer – For DNA – Measure Absorbance at 260 & 280 nm
For RNA – Quantitative Analysis by Orisinol Method

Facilities Required For Unit – 2 :

Refrigerated Centrifuge , High Speed Refrigerated Centrifuge , DNA Speedvac Concentrator , Spectrophotometer ,Vortex Mixer , Dry Bath , Water Bath , Electrophoresis , Power Supply , Bio- safety Cabinet for RNA handling , Gel Documentation System .

UNIT 3 - Bioinformatics:

Methylation Primer Designing, Mutation Primer Designing , Selection of Restriction Sites, Virtual PCR, Bioinformatics tools & Techniques .

Facilities Required - Software for primer designing

UNIT 4 – PCR & Optimization for the Expression of Lethal Gene

Optimization of Conventional , Nested and PCR , PCR Multiplexing Methods , Run of Conventional PCR , Data Analysis .

Mutation Analysis : . Extraction of Nucleic Acid , Optimization of method for mutation detection in biological sample .

Methylation in DNA : Bisulfite modification of DNA , Bisulfite modification in nanogram quantities of DNA , DNA Methylation PCR array

Methylation in RNA : Bisulfite modification of RNA , Bisulfite modification in nanogram quantities of RNA , RNA Methylation PCR array

Methylation Specific PCR Technology: PCR & Applications, Optimization of PCR, Troubleshooting in PCR applications , Single Nucleotide Prime Extension

Facilities Required for Unit – 4 : Thermocycler , Gradient Thermocycler , PCR Cabinet , PCR pipettes , Ice Flakes ,etc.

UNIT 5 – Methylation Studies by Real Time PCR

cDNA Construction

Purification of mRNA from total RNA , first strand cDNA synthesis or construction of cDNA

Real Time PCR Analysis

Introduction to Real-time PCR & Applications , Real-time PCR reaction setup , Construction of a standard curve: Biostatistics principles; Linear regression , Standard melt curve analysis ,High resolution melt curve analysis . Analysis of SYBR Green real-time PCR results:

Facilities Required for Unit 5 - mRNA purification column , cDNA construction kit or oligodt , hexamer primer , reverse transcriptase PCR Cabinet , PCR pipettes , Ice Flakes , Real Time PCR .

Research Elective For Project Work : Participants may choose one area of interest -

- **Mutation Analysis**
 - **DNA Methylation**
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INFORMATION TO APPLY FOR THE PROGRAM

WHO MAY JOIN ?

Students From Biotechnology , Microbiology , Biochemistry , Life Science , Chemistry , Pharmacy , Forensic Science , Food Science etc.

SELECTION CRITERIA : First come first serve

FEE FOR TRAINING PROGRAM : Rs 10,000 / - (For 30 Days Training)
Rs 12,000 /- (For 45 Days Training + Project Work)

APPROVAL OF THE TRAINING PROGRAM :

This training program is designed and approved by the organization Scientific Advisory Committee.

HOW TO APPLY –

Details of Documents :

1. Any identity proof along with University / College Identity Card
2. Filled Registration form of **Allele Life Sciences Pvt. Ltd.** with photograph
2. Registration fee will be Rs 1000 / -
3. Registration fee may be paid through cheque / Demand Draft or On Line Transfer :

Cheque or Demand Draft will be in favor of “ **Allele Life Sciences Pvt. Ltd.** “ payable at Noida or Service Branch

Details for on line Payment :

Kindly write us for bank or UPI Details at : allelelifesciences@gmail.com

For on Line Registration Send scan copy of all documents at : allelelifesciences@gmail.com

Note : Kindly send the receipt of the registration fee along with scan documents.

Those who pay through cheque or DD send all documents at following address :

Allele Life Sciences Pvt. Ltd.

C - 59 , Sector - 10 , Noida

Uttar Pradesh - 201301 , IN

Ph.No : + 91-9891179928

Note : We will send confirmation at your email address withi 7 days.

For Any other query mail at : allelelifesciences@gmail.com or Call at – 09891179928

Registration Form is Given at nest page

Photograph

Registration Form

Name of Training Program :

Expected Date of Joining :

Candidate Details :

Name: Mr./Ms. _____

Father's Name: _____

Address : _____

Contact No. : _____ Mobile No.: _____

Email: _____

Institution -

Qualification -

Terms & Conditions :

1. The admission to training / internship programs will be confirmed after the payment of registration fee along with documents.
2. The registration fee deposited is completely non refundable.
3. The industrial training fee includes the cost of chemical , reagents and study material costs.
4. I will deposit the service charges as decided by the company at the time of joining date of training program.
5. Students have to bear their own boarding/lodging /conveyance charges. We facilitate students in finding proper paying guest arrangements.
6. The trainees will have to bring their own lab coat and wear them all the time in the campus.
7. Trainees are selected on first come first serve basis
8. Trainees will maintain adequate discipline inside the lab premises.

DECLARATION

I _____ from _____

hereby declare that all statement/information given in the application form are true to the best of my knowledge and belief . I will strictly abide by the norms/lab etiquette during the training

Signature

Place: _____

Date: _____

For office use only