

Internship in Genetic Engineering / Gene Cloning

Life Science is a knowledge-based industry requiring manpower that has the right combination of understanding the technology as well as managerial expertise. We offer comprehensive and in-depth practical hands on training for industrial or research needs.

We are well recognised in the area of life science in which a number participants from diverse scientific fields like biotechnology, biochemistry, human genetics, forensic science, food science & technology, life sciences, microbiology, chemistry, medical sciences, vet sciences, agriculture, Pharmacy etc.



Designing & Implementation of Training Programs

Our Mission at Allele Life Sciences is to offer innovative and exceptional analytical technical process for industry & Research. Our training programs will build and strengthen skills in the specific tasks to be completed for efficient functioning of the industry.

Our Advantage

- Syllabus with latest technologies
- Capacity to implement hands on learning with state of art research facility
- Dedicated Research Advisory
- Periodical Review of the Syllabus
- Validated Protocols & Manuals
- Compulsory One Week Instrumentation Learning

After successful completion of the summer internship, they will get their Certificate along with Evaluation Sheet (E-Copy of the certificate will be send to their concerned institution for validation)

Training Fee Per Module Indian Nationals:

INR 10,000 /- (30 Days , Training Only) & INR 12,000 (45 Days Training + Project Work)

Admission Criteria : First Come - First Serve

Note -

1. Read and analyse the brochure thoroughly and carefully for career development
2. All Units of selected module will be covered

Syllabus For Genetic Engineering / Gene Cloning

The overall goal of the **Internship in Gene Cloning & Expression** training program is to provide the trainee with the skills they will need to provide appropriate cloning & expression technique for Cutting a piece of DNA from one organism and inserting it into a vector where it can be replicated by a host organism.

The trainee will also be prepared to describe indications for procedures used in cloning and sub-cloning techniques.



Unit – 1 : Basics of Genetic Engineering

Basics of Genetic Engineering , Lab safety and Procedures , Record Maintenance, Handling of Equipments , Sterilisation Techniques , Preparation of Chemical & Reagents , **Discussion of ethical, legal, and social issues involved in genetic engineering**

Unit II Nucleic Acid Extraction, Quantitation of Nucleic Acid Integrity

Extraction of both DNA & RNA , Qualitative analysis by electrophoresis, gel Docking and image analysis. Quantitative / DIN or RIN Analysis by Spectrophotometer/ Nano Drop/ Bio-Analyser.

Unit III - Bioinformatics

Primer Designing, Vectors , Selection of Restriction Sites, Virtual PCR, Bioinformatics tools & Techniques, Gel Analysis Software, Real Time PCR Primer Design, Q-PCR Data Handling, Sequence Data Analysis .

Unit IV - Construction of Plasmids as Vector

Unit V - r-DNA Technology :

Isolation of pUC18 plasmid from TOP10-pUC18 E coli cells Restriction digestion of pUC 18 and λ DNA , Purifying pUC18/Hind III/ EcoR I digest by gel elution , Ligating the linearised plasmid - pUC18 and the insert $-\lambda$ DNA, Preparation of competent cells , Transformation of TOP10 cells with the pUC18- λ DNA ligated product. Colony PCR : To amplify the inserted λ DNA digest in pUC18 vector

Unit VI - Genetic Engineered Clone Confirmatory Assay

Confirmation By PCR and its Optimisation, SDS-PAGE , Blue White Screening of Cloned Colonies, Western Blot

Unit VII- cDNA Library

PCR and its Optimisation, Thermostable DNA Polymerases; Amplification of Genomic DNA and cDNA; use for RNA Amplification and mRNA Quantitation; Probes and Primers;

Unit VIII - PCR & Real Time PCR Assay

Introduction of Real Time PCR , Real-time PCR reaction setup , Analysis of SYBR Green real-time PCR results: , Troubleshooting of real-time PCR reactions, Basics of Microarray.

TECHNIQUES COVERED IN THIS PROGRAM :

Nucleic Acid Extraction ,Optimisation, Electrophoresis, Imaging and Data Analysis, DIN/RIN Quantitative Analysis , Advance Bioinformatics tools and softwares, PCR & Real Time PCR Assay Development and Data Analysis, rDNA Technology, cDNA Construction, Basics of Microarray

Information about Project Work with Training Program:

We will provide a project work of your interested area, our assigned projects will be on product development, basic research and novel idea like;

Cloning & Expression in Plants, Bacteria, cDNA Library, Plasmid Preparation Strategies, Development of Biotech Products Like- Taq-Polymerase, DNA Ladder etc. Expression Profiling, Use of Molecular Scissors in Product Development, rDNA Technology & Product Development, Development of Real Time PCR Chemistry for Novel Clinical Analysis etc.

We respect and welcome all feasible ideas suggested by you for better science

Training Fee:

Rs 10,000 / - For 30 Days Training & Rs 12,000 /-For 45 Days (Training + Project Work)

HOW TO APPLY –


Details of Documents For Registration :

1. Any identity proof along with University / College Identity Card / Aadhar Card etc.
2. Filled **Registration form** with photograph (Given in Last Page of Brochure)
2. **Registration fee** will be Rs 1000 / - paid through cheque or on line payment

How to pay Registration Fee Off Line (Those Who Send Documents by Post) :

1. Cheque or D.D will be in favour of “ **Allele Life Sciences Private Limited**”

On Line Payment :

Payment By Internet Banking	Scan UPI Code
Beneficiary Name - Allele Life Sciences Private Limited Account Number - 61071508494 IFSC Code - SBIN0031811 Bank Name - State Bank of India Bank Address - SBI, 14/15, Sector-18, Noida, UP - 201301 Or Pay Through UPI / BHIM App UPI Address - allelelifesciences@upi	

How to send document :

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

Allele Life Sciences Pvt. Ltd.
C - 59 , Sector - 10 , Noida
Uttar Pradesh - 201301 , IN
M : + 91-9891179928

Those who opt on Line registration send scan copy of all documents and receipt of online payment at : allelelifesciences@gmail.com

Note : We will send confirmation within specified time through e.mail or remind us.

Registration Form

Name of Training Program :

Expected Date of Joining :

Candidate Details :

Name:

Father's Name:

Address :

Contact 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.
9. Company will not be responsible for any medical, legal issues during the internship tenure.

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

Instruments Capabilities

Our State of art facility is located in Industrial Area of Noida (NCR) . The lab / research facility is Total : 6000 Sq Feet

Affymatrix & Agilent Microarray Platform	Gene Expression Studies, Biomarker, Sequencing
Real Time PCR (ABI)	Gene Expression, Sequence Detection
PCR (ABI, Biorad , Eurofins) - 5 in numbers	Amplification of nucleic acids
Bioanalyser & Spectrophotometer	Quantification of Nucleic Acids
Gel Documentation System	Visualisation of Nucleic Acids, PCR Products etc.
Electrophoresis & Power Supply (Biorad) - 7 Sets	Separation of Nucleic Acids & Other Arrays
DNA Concentrator (Thermo Speedvac)	Nucleic Acid Extraction
Centrifuge, High Speed Centrifuge - 8 Nos	Sample Preparation
PCR Station and other accessories	

Biorad Profinia Affinity Chromatography	Affinity Chromatography - IMAC, GST, Antibody
Biorad Biologic Low Pressure Chromatography	Size Exclusion, Ion Exchange, Affinity etc.
Preparative HPLC (Thermo) , Agilent 1100	Bulk Protein Purification & Analysis
GE Amersham 2-D Electrophoresis System	Protein Characterisation
Immunoblot, SDS-PAGE , Biorad HV Powerpac	Visualisation of Nucleic Acids, PCR Products etc.
Mass Spectrometry , ELISA, Immunoassay	Protein Identification
Cryo Preservation Facility & Common Facility	Sample Storage & Preparation

Agilent HPLC System - PDA, FLD & ECD Detector	Separation and analysis of molecules
Agilent GC with FID & FPD Detectors	Separation and analysis of molecules
Thermo Prep HPLC with Dual Pump & UV-Vis	Bulk Purification & Analysis
Shimadzu GC with FID & NPD Detector	Separation and analysis of molecules
Triple Quad GC-MS System (Agilent)	Analysis of Semi Volatile & Volatile Compound
LC-MS-MS (API Sciex)	Analysis of Non Volatile Compound
Varian Carry Spectrophotometer	Analytical Tool for various purpose
Thermo Helios Spectrophotometer	Analytical Tool for various purpose
Vacuum Rotary Evaporator (Buchi)	Sample Preparation

Other Analytical Chemistry Equipments :

Refractometer , Flame Photometer (Toshniwal), Karl Fisher Titrator (Sistrionics), Potentiometer, Polarimeter , Tintometer ,Viscometer , Kjeldahl Distillation Unit , Kjeldahl Digestion Unit , Ion Selective for Fluoride Analysis (Thermo Orion) , Nephelometer , Soxhlet Extraction , Rotatory Vaccum Evaporator with chiller , etc.



Microbiology & Cell Culture Facility : Vertical Laminar Air Flow (4x2x2) , Horizontal Laminar Air Flow (2x2x2) B.O.D. Incubator (Julabo) , CO₂ Incubator (Jauan) , Orbital Incubator Shaker, UV Chamber , Incubator, Colony Counter , Colorimeter , Muffle Furnace , Hot Air Oven , Desiccators, Binocular Microscopes and , Lypholizer

Biochemistry / Organic Synthesis Chemistry Lab : Spectrophotometer (Thermo Heleus Alpha) , Analytical Balance (Sartorius) , Ph Meter (Thermo Orion) , Ion Selective (Thermo Orion) , Conductivity Meter (Thermo Orion) , Dissolved Oxygen Meter (Thermo Orion) , Turbidity Meter, Autoclaves, Hot Air Oven , Hot Plate , Magnetic Stirrers , Pipette Washer , Shaking Machine , Water Bath , Colorimeter , Flame Photometer , etc.

Lab Water Purification : Millipore Milli Q System

Clinical Biology Lab : Haematology Analyser , Automatic Immunoassay, Haematology HPLC Biorad Variant II



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