






# TRAINING BROCHURE

( INTERNATIONAL )

**E.MAIL**

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-  +91-8377082003 (WhatsApp Only)
-  [www.allelelifesciences.com](http://www.allelelifesciences.com)
-  C-59, Sector - 10, Ind. Area, Noida,  
Uttar Pradesh - 201301

# Module I: In-vitro Technology, Cytology & Cancer Biology Lab

## Application of Module:-

Vaccine Research, Drug Development, Cancer Research, Toxicology Analysis, Personalized Medicine, Diagnostics Development, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Major Instruments Used:

Bio-Safety Cabinet, Filtration Technology, Co2 Incubator(Thermo), Inverted Microscope with CCD Camera, Fluorescence Microscope (Olympus), Microplate Reader(thermo), Flow Cytometer (B.D Bioscience), Fluorometer, Cryo Preservation, Olympus FLU 1000 image analysis Software etc.

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

USD 200 (Foreign Student Study in India) |  
USD 1000 (Faculty outside India)



**Professional skills development**



**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- In-vitro animal Cell Culture Technique

- **Cell Culture Lab Safety, Lab Instrumentation & Basics of Cell Culture**
- **Microscopy & Calibration of Microscope**
- **Preparation of Media and Reagents for Mammalian Cell Culture**
- **Isolating Cells and Growing Them in Culture Media**
- **Identification of cells & Imaging of cells**

### Unit II- Cell Proliferation, viability, Migration, Invasion & Cytotoxicity Assay

- **Determine of cell numbers, growth, and proliferation**
- **Cell Viability Assay**
- **Cell Migration and Invasion Assay**
- **Cell Cytotoxicity Assay**

### Unit III-Cell based Assay For drug screening & Flow-cytometry Analysis

- **LDH- Release Cytotoxicity Assay**
- **Basics of Flow-cytometry & Software handling**
- **Apoptosis Assay by Flow Cytometry Using Annexin V Staining**
- **Flow Cytometry Data Analysis**

### Unit III-Cell based Assay For drug screening & Flow-cytometry Analysis

- **Cell Staining Assay**
- **Immunofluorescence Characterization**
- **DNA Damage COMET Assay**
- **Fluorescent\_in\_situ\_Hybridization\_FISH**

# Module II: Molecular Genetics & Diagnostics Lab

## Application of Module:-

Molecular Diagnostics, Food Industry, Testing lab, Biopharmaceutical Industry, Gene Therapy, Vaccine Research, Cancer Research, Toxicology Analysis, Food Product Testing, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Major Instruments Used:-

Real Time PCR (ABI & Biorad), 5 PCR Systems with gradient (ABI, Biorad, Eurofin and MWG Biotech), Agilent Microarray System, Gel Documentation System, Hybridization Oven (Affymatrix), Refrigerated Centrifuge (Thermo, Remi & Eltek), Speedvac DNA Concentrator(Thermo), Spectrophotometer (Thermo), Softwares etc.

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

USD 200 (Foreign Student Study in India) | USD 1000 (Faculty outside India)



**Professional skills development**



**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- Nucleic Acid Extraction (DNA & RNA)

- DNA Extraction from any tissue/culture
- Quantitative & Qualitative Analysis of DNA
- RNA Extraction & Optimisation
- Quantitative & Qualitative Analysis of RNA

### Unit II- mRNA Purification and cDNA Synthesis, Qualitative RT-PCR

- RNA Extraction and mRNA Purification
- First Standard cDNA Synthesis
- Optimisation of PCR Reaction and PCR run
- Qualitative RT- PCR sample run & Analysis

### Unit III- PCR Assay for various samples

- PCR run for Molecular Diagnostics
- Analysis of food samples by PCR Multiplexing
- Molecular Marker Analysis - RAPD / SSR / ISSR
- PCR for DNA Barcoding Analysis

### Unit IV-Real Time PCR Assay & Basics of Microarray Technology

- RNA Extraction and First Standard cDNA Synthesis
- Primer Design for Real Time PCR, Basics of Q-PCR
- Real Time PCR run with SYBR Green Assay
- Real Time PCR Data Analysis & Basics of microarray

# Module III: Immunology Lab Technology

## Application of Module:-

Molecular Diagnostics, Food Industry, Testing lab, Biopharmaceutical Industry, Gene Therapy, Vaccine Research, Cancer Research, Toxicology Analysis, Food Product Testing, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Major Instruments Used:

Bio-Safety Cabinet, Filtration Technology, Co2 Incubator(Thermo), Inverted Microscope with CCD Camera, Fluorescence Microscope (Olympus), Microplate Reader(thermo), Flow Cytometer (B.D Bioscience), Fluorometer, Cryo Preservation, Olympus FLU 1000 image analysis Software etc.

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

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**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- Basic Immunology Techniques

- **Single immunediffusion two dimensions (radial immunodiffusion)**
- **Ouchterlony Double Diffusion**
- **Rocket immuno electrophoresis**
- **Counter Current Immunoelectrophoresis**

### Unit II- Enzyme immunoassays, Western Blot Assays

- **Enzyme Linked Immuno Assay for Diagnostics**
- **Indirect ELISA**
- **Immunoprecipitation Assay**
- **Western Blot Analysis**

### Unit III- Tagging of antibody, Antibody Affinity Purification, IgG extraction & Purification

- **Extraction of IgG**
- **Purification of IgG by Affinity Chromatography**
- **Label IgG with a fluorescent green marker(FITC)**
- **Quantification of fluorescent dye bound to IgG**

### Unit IV- Flow-Cytometry and Immunofluorescence Assay

- **Intracellular cytokine staining**
- **Sample run by Flow Cytometry and Data Analysis**
- **Immunofluorescence Staining for Immunotyping**
- **Fluorescence Microscopy and Data Analysis**

# Module IV: Protein Biology & Vaccine Research Lab

## Application of Module:-

Molecular Diagnostics, Food Industry, Testing lab, Biopharmaceutical Industry, Gene Therapy, Vaccine Research, Cancer Research, Toxicology Analysis, Food Product Testing, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Instruments Used:

Fast Protein Liquid Chromatography (G.E Amersham), Affinity Chromatography System ( Biorad), High Pressure Liquid Chromatography ( Thermo & Agilent , SDS-PAGE & Western Blot Units, Gel Doc, 2-D Gel Electrophoresis (GE Amersham), Spectrophotometer etc

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

USD 200 (Foreign Student Study in India) | USD 1000(Faculty outside India)



**Professional skills development**



**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- Protein Extraction and Analysis

- **Protein Extraction from Cultured Cell**
- **Quantification of Protein - Bradford / Lawry's Method**
- **Analysis of Protein by SDS-PAGE**
- **Densitometric analysis of proteins**

### Unit II- Partial Purification and Dialysis

- **Acid Base Equilibrium, pH, Buffer System, Charge, pI and pKa Value and Reagent Preparation**
- **Ammonium sulphate precipitation Assay**
- **Estimation of Protein after Ammonium sulphate precipitation**
- **Dialysis or Desalting of Protein Sample**

### Unit III-Cell based Assay For drug screening & Flow-cytometry Analysis

- **LDH- Release Cytotoxicity Assay**
- **Basics of Flow-cytometry & Software handling**
- **Apoptosis Assay by Flow Cytometry Using Annexin V Staining**
- **Flow Cytometry Data Analysis**

### Unit III-Cell based Assay For drug screening & Flow-cytometry Analysis

- **Cell Staining Assay**
- **Immunofluorescence Characterization**
- **DNA Damage COMET Assay**
- **Fluorescent\_in\_situ\_Hybridization\_FISH**

# Module V: Analytical Testing Lab- Food, Pharma, Cosmetics, Forensics & Biopharmaceuticals

## Application of Module:-

Molecular Diagnostics, Food Industry, Testing lab, Biopharmaceutical Industry, Gene Therapy, Vaccine Research, Cancer Research, Toxicology Analysis, Food Product Testing, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Instruments Used:

High Pressure Liquid Chromatography (Thermo & Agilent), Gas Chromatography (Shimadzu & Agilent), Spectrophotometer (Thermo), Microplate Reader, Vacuum Rotary Evaporator (Heidolf), Dissolved Oxygen, TDS, Column and Thin Layer Chromatography etc. etc

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

USD 200 (Foreign Student Study in India) | USD 1000 (Faculty outside India)



**Professional skills development**



**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- Basic Analytical Procedures & Techniques

- Qualitative analysis of Protein, Carbohydrate, Starch, Fat, Secondary metabolites and Aspirin
- Quantitative Analysis of Aspirin, Carbohydrate (Food Sample) and Phenols (Herbal)
- Quantitative analysis of spiked drug from gastric lavage (Forensics)
- Chromatography Procedures - Column Chromatography & TLC

### Unit II- Analysis of Finished Products - Pharma / Food / Cosmetics

- Determine of cell numbers, growth, and proliferation
- Cell Viability Assay
- Cell Migration and Invasion Assay
- Cell Cytotoxicity Assay

### Unit III- Sample Preparation and basics of HPLC & Gas Chromatography

- Basics of High Performance Liquid Chromatography & Gas Chromatography
- HPLC and Gas Chromatography Software & Its application
- Sample Preparation Technologies for HPLC - SPME, Purification, Derivatisation etc.
- Sample Preparation for Gas Chromatography

### Unit III-Cell based Assay For drug screening & Flow-cytometry Analysis

- Sample run by High Performance Liquid Chromatography
- Data Analysis of HPLC
- Sample run by Gas Chromatography
- Data Analysis of Gas Chromatography

# Module VI: Microbiology Lab- Food, Pharma, Cosmetics, Forensics & Biopharmaceuticals

## Instruments Used:

Vertical Laminar Air Flow (4x2x2), Horizontal Laminar Air Flow (2x2x2), B.O.D. Incubator (Julabo), Orbital Incubator Shaker(Thermo), UV Chamber, Microscope with camera(Olympus), Colony Counter, Colorimeter, Muffle Furnace, Hot Air Oven , Desiccators and Lypholizer etc

## Application of Module:-

Molecular Diagnostics, Food Industry, Testing lab, Biopharmaceutical Industry, Gene Therapy, Vaccine Research, Cancer Research, Toxicology Analysis, Food Product Testing, Cosmetics and Consumer Products Analysis, Agricultural and Environmental Sciences

## Duration -

80 Hrs or Upto One Month

## Module I Training Fee -

USD 200 (Foreign Student Study in India) | USD 1000 (Faculty outside India)



**Professional skills development**



**Non classroom Hands-on practical Learning**



**Industry-Relevant Certification**

## Module Details:

### Unit I- Isolation & Enumeration of Microorganism

- Sterilisation Techniques , Reagent Preparation, Buffers, Acid-Base Equilibrium
- Aseptic Technique and the Transfer of Microorganisms
- Streak Plate Method
- Selective and Differential Media for Identifying Microorganisms

### Unit II- Bio-Chemical Characterisation For Preliminary Screening

- Bacterial Growth Curve by Microplate Reader
- Differential and Cytological Staining Techniques
- Motility Test of Microorganism
- Isolation and Identification of Two Bacterial Unknowns

### Unit III- Antimicrobial Susceptibility & Antimicrobial Resistance (AMR)

- MIC determination
- In vitro Antibiotic Susceptibility Testing
- Isolation and Identification of Auxotrophic and Drug Resistant Mutants
- Protease & Carbapenemase production test

### Unit IV- Microbial Analysis by PCR Technology

- DNA Extraction of microbial isolates
- Amplification of 16s gene with PCR technology
- Amplification of Anti Microbial Resistant gene
- DNA Sequencing Data Analysis

Lack of practical experience is one of the key barriers that newcomers face in their quest for a job. Our goal is to prepare students for the workforce in their field.

[www.allelelifesciences.com](http://www.allelelifesciences.com)

## OUR PEDAGOGY

- Holistic Learning- Determination, Dedication, Discipline and Direction
- Lab manual provides a platform for understanding the basic of experiments
- Our technician will help you to operate instrument
- Be a teacher opportunity during learning
- Your help to other lab mates will make you confident.
- Certificate after successful completion of training

## EMPLOYABILITY

**Employability** is related to attitude, discipline and ability to be employed. Our training program covers major instruments, tools, and techniques applied to related industries and research. **We do not guarantee for placement.**

## BENEFITS

- **Professional skills development**
- **Non classroom Hands-on practical Learning**
- **Customised Curriculum**
- **Industry-Relevant Certification**
- **Upskilling and Reskilling Programs**



## FEE STRUCTURE

USD 200 (Foreign Student Study in India) | USD 1000(Faculty outside India) For One Module

## DURATION

**Duration** - 80 Hrs or up to one Month

**VISA** - Candidate will be responsible for VISA.

**Accommodation** - We do not have any accommodation in our premises. You may take help of online platforms for accommodation.



“Our training programmes are specifically created for the career advancement of students to assist them in learning about cutting-edge technologies”



## Address Office:

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## PERSONAL INFORMATION

Full Name :

Address :

Nationality :

Institution ( If Any )

Phone :

Email :

Name of Training :

## 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 Rs 1000/- deposited is completely non refundable.
3. I will deposit the service charges as decided by the company in brochure at the time of joining date of training program.
4. Students have to bear their own boarding/lodging /conveyance charges.
5. Trainees will maintain adequate discipline & lab safety inside the lab premises.
6. Company will not be responsible for any medical, legal issues during the internship tenure.

## Declaration

I  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 terms & conditions, norms, lab etiquette during the training .

Pay Registration Fee for confirmation of seat for training program.

Send the copy of the form, payment detail and any identity proof at :  
info@allelelifesciences.com

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

## THANK YOU FOR REGISTRATION

We will send your training confirmation letter at your  
Email ID given in the registration form

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Trainee Signature

## More Information :

If you do not receive confirmation letter  
kindly WhatsApp your details at:

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## CONTACT US

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