

# Internship in Proteomics & Protein Chemistry

## Bridging Gap Between Industry & Academia



Proteomics is an interdisciplinary field of science within the field of molecular biology and study proteins and their functions, and related techniques. The overall goal of the Internship in Proteomics & Protein Chemistry training program is to provide the trainee with the skills they will need to provide appropriate proteomics hands on techniques. This program covers in-depth hands on learning; Protein Extraction, Purification , Estimation, Characterisation and identification techniques.

### OBJECTIVES :

- To develop the skill with latest technologies used in Proteomics Research
- Lab facility with dedicated scientific advisory and research assistants
- Documentation of all experimental work
- Data Handling and interpretation

1

### PURIFICATION

Hands on Learning on FPLC for Protein Purification

2

### CHARACTERISATION

Characterisation of Protein by 2-D Electrophoresis

3

### IDENTIFICATION

Identify your protein by chromatography and Spectrometry

### PROTEOMICS

#### Extraction



#### Purification



#### Estimation



#### Characterisation

#### Identification

#### Bioinformatics

#### Data Analysis

## **UNITS TO BE COVERED : - All Units are compulsory For Training in Genomics & Molecular Biology**

### **Unit I - Lab safety and Procedures :**

Record Maintenance, Handling of Equipments , Sterilisation Techniques , Preparation of Chemical & Reagents. Discussion of ethical, legal, and social issues involved in genomics study and research.

### **Unit II- Protein Extraction & Protein Assay**

Protein Extraction, Acid Base Equilibrium, pH, Buffer System, Charge, pI and pKa Value, Quantitative determination of biomolecule, mini scale bacterial protein extraction, protein extraction from plant source or other biological source

### **Unit III - Protein Estimation & Quantitation**

Protein estimation by Lowry's Assay / Biuret Assay / Bradford's Method / BCA Method , Densitometry Analysis of Protein

### **Unit IV - Protein Purification by FPLC , LPLC & HPLC**

Purification of Protein by Affinity Chromatography ( IMAC / GST / Sepharose etc) , Ion Exchange Chromatography , Size Exclusion and Hydrophobic Purification, Desalting, Dialysis, Ultrafiltration and centrifugation.

### **Unit V - Protein Characterisation**

Protein Characterisation by SDS-PAGE, Native Page, Zymography, Iso Electric Focussing, 2-D Electrophoresis, Western Blot, Staining by Coomassie Blue, Supra Ruby, Deep Purple Protein Fingerprinting, Immunodiffusion Assay

### **Unit VI - Amino Acid Analysis by Chromatography**

Sample preparation, Hydrolysis, Derivatization, Separation of derivatized amino acids, Data Interpretation and calculation

### **Unit VI - Protein Bioinformatics**

Analysis of 2-D Data, Peptide Mass Fingerprinting Data Analysis ( LC-MS MALDI-TOF ), Homology Modelling, Molecular Docking

### **PROJECT WORK :**

We will provide a project work of your interested area, our assigned projects will be on product development, basic research and novel idea . **We do respect and welcome all feasible ideas** suggested by you for technology development in life science research.

### **TECHNIQUES COVERED IN THIS PROGRAM :**

Enzyme Extraction & Optimisation, Simulation Studies for enzyme kinetics, Enzyme estimation by spectrophotometer, Enzyme Purification by FPLC,, Affinity , HPLC or Gas Chromatography, Enzyme characterisation by SDS-PAGE and electrophoresis, Fermentation

### **BENEFITS OF THE TRAINING PROGRAM :**

1. Research & Development in Bio-Pharmaceutical Sector
2. Molecular Diagnostics in health care
3. Doctoral Research
4. Bridging Gap in Academic Program
5. Boost your confidence

## INFORMATION TO APPLY FOR THE PROGRAM

### WHO MAY JOIN :-

Any enthusiast and dedicated learner from life science, biotechnology, chemistry or applied sciences

### SELECTION CRITERIA:-

First come first serve basis



### TRAINING FEE :

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

### HOW TO APPLY –

#### Details of Documents :

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

#### How to pay Registration Fee :

1. Cheque will be in favour of **Allele Life Sciences Private Limited**
2. **For on line payment detail send request at : [allelelifesciences@gmail.com](mailto:allelelifesciences@gmail.com)**

#### 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  
Ph.No : + 91-9891179928

**Those who opt on Line registration send scan copy of all documents and receipt of online payment at : [allelelifesciences@gmail.com](mailto:allelelifesciences@gmail.com)**

**Note :** We will send confirmation within specified time. If not received send a reminder mail.

**For Any other query mail at : [allelelifesciences@gmail.com](mailto:allelelifesciences@gmail.com) or WhatsApp - 9891179928**

**Registration Form is Given at next page**



## 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.

### 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**