

2 week Training / Winter Training For Skill Development

NAME OF TRAINING PROGRAM	DURATION
Training in Recombinant DNA Technology	Rs 6,000 / -
Training in Protein Extraction & Purification	Rs 6,000 / -
Training in Protein Characterisation Techniques	Rs 6,000 / -
Training in Quality Analysis of Alcoholic Products	Rs 6,000 / -
Training on Amino Acid Analysis	Rs 6,000 / -
Training in on Adulterants Analysis in Food Products	Rs 6,000 / -
Training in on Forensic DNA Analysis	Rs 6,000 / -
Training in on Forensic Toxicology Analysis	Rs 6,000 / -
Training on HPLC Method Development and Sample Analysis	Rs 6,000 / -
Training on GC Method Development and Sample Analysis	Rs 6,000 / -

Information

Duration: 40 Hours or Max 2 Weeks as flexible duration || **Lab Timings :** 9:00 am to 5:30 pm

Venue : Allele Life Sciences Research & Analysis Lab , C - 59,, Sector - 10, NOIDA, UP - 201301

Registration: Before 15 Days of your expected date of joining

How to Register For Workshop : Click over the link and : www.allelelifesciences.com/training/registration-form.pdf

Course Note: Each attendee will receive a training package , a course manual for future reference and most importantly a certificate of attendance. The certificate of attendance may be of relevance and significance as an evidence of your training .

E.mail - allelelifesciences@gmail.com / Contact: +91- 9891179928

Course Confirmation will be send to the participants E.mail & Mobile.

2 week Training on Genetic Engineering

An Initiative of Allele Life Sciences For Skill India Mission



About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in rDNA Technology.

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

Course Content

Unit I 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 II - 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 III - Construction of Plasmids as Vector

Unit IV - 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 λ 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 V - Genetic Engineered Clone Confirmatory Assay

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

Major Technology Available Alcoholic Product Analysis :

DNA Extraction Procedures, Assay for DIN / RIN by Spectrophotometry, Analysis by Gel Documentation, Recombinant DNA Technology, Bioinformatics, PCR Assay, Gene Cloning Confirmatory Assay, SDS=PAGE, Western Blot Analysis.

Two Week Training on Protein Extraction & Purification Techniques

An Initiative of Allele Life Sciences For Skill India Mission



About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in Protein Extraction and Purification.

Protein Purification Workshop will provide hands-on laboratory exercises and instruction on recovery and purification strategies for biotechnology products, especially proteins. Participants will integrate theory with practice in areas such as protein extraction techniques, chromatography theory and systems, sample preparation, type of columns, column selection, buffer selection, affinity chromatography, ion exchange and high pressure liquid chromatography.

Course Content

Unit-1 Introduction to 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 -2 Introduction to Protein Purification :- Sample solvents, Column selection, Partition coefficient, Mobile phase selection, Gradients, Effect of flow rate, Temperature effects and Sample preparation.

Unit - 3 Challenges in Protein Purification

Unit - 4 Protein Purification by Affinity Chromatography:- Affinity Chromatography (IMAC, GST Tagged Purification, Talon resin, Glutathione Sepharose, Heparin Sepharose, Streptavidin Sepharose, anti-Flag, Protein A, Protein G)

Unit -5 Ion Exchange Protein Purification :- Ion Exchange Chromatography (Mono-Q / Q Sepharose Fast Flow / Resource Q / Q Sepharose XL / DEAE Sepharose / SP Sepharose / CM Sepharose)

Unit -6 Reverse Phase Protein Purification : - Reverse-Phase HPLC Separation of Enzymatic Digests of Proteins

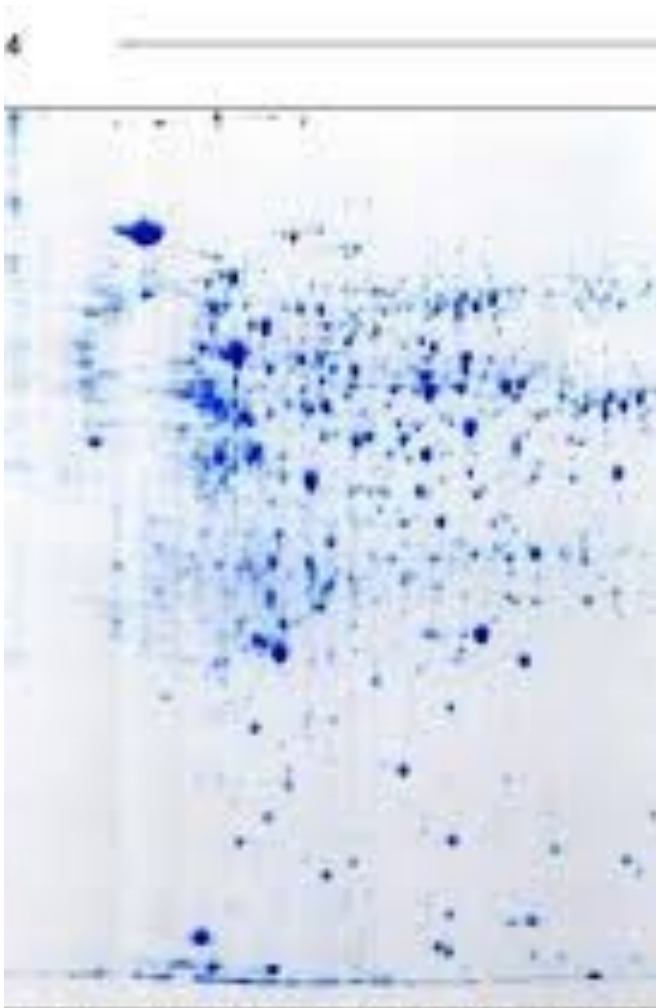
Unit -7 Product Development : Valuable Protein Extraction From Bio-waste like ; Protein Extraction for Hair

Technology Available For Protein Purification :

- » Protein Purification System (Biorad Profinia)
- » Low Pressure / Fast Protein Liquid Chromatography
- » Preparative HPLC Dual Pump with PDA Detector (Thermo Scientific)
- » Analytical HPLC (Agilent Technologies)

Workshop on Protein Characterisation Techniques

An Initiative of Allele Life Sciences For Skill India Mission



Commassie Blue Stain bacteria 2D Gel Electroph

About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in Protein Characterisation.

Protein Characterisation Workshop will provide hands-on laboratory exercises and instruction on protein characterisation strategies for biotechnology products, especially proteins. Participants will integrate theory with practice in areas such as protein extraction techniques, sample preparation, SDS-PAGE, Iso Electric Focusing, 2-D Electrophoresis and Western Blot Analysis of proteins.

Course Content

Unit 1: 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 2 : Protein Estimation :- Protein Estimation by Lowry Method / BCA Method / Bradford Method

Unit 3: Protein Characterisation by SDS-PAGE:- Basics of SDS-PAGE, Acetic-Acid Urea Polyacrylamide Electrophoresis of basic proteins

Unit 4 : Iso Electric Focusing of Proteins :- Iso Electric Focusing of Proteins in Ultra-Thin Polyacrylamide Gels

Unit 5: 2-D Protein Electrophoresis : - Preparation of Protein sample for **2-D Electrophoresis**, Protein solubility in 2-D Electrophoresis, Disruption of Di-sulphide bridges, Two Dimensional Polyacrylamide Gel Electrophoresis of Proteins using pH Gradient in First Dimension.

Unit 6: Western Blot Analysis : Protein Analysis by Western Blot

Technology Available For Protein Purification :

- » GE Ettan IPGPhor Iso Electric Focusing System
- » SDS-PAGE Units (Merk) - 3 Units
- » Western Blot Unit (Merk)
- » UVP White Light Transilluminator
- » Gel Documentation System

2 Week Training on Quality Analysis of Alcoholic Products

An Initiative of Allele Life Sciences For Skill India Mission



About the Program

The purpose of the training programme is to upgrade skills and generate trained human resource in the food industry. The Training will give an opportunity to have hands-on experience in Alcoholic Products Analysis.

Alcoholic Product Analysis Workshop will provide hands-on laboratory exercises and instruction on separation and analysis strategies for quality standards of alcoholic products. Participants will integrate theory with practice in areas such as adulterants analysis techniques, chromatography theory and systems, sample preparation, type of columns, column selection, buffer selection, Gas and High Pressure Liquid Chromatography.

Course Content

Unit-1 Quality Control Procedure For Alcoholic Products :- Food Safety & Standards Act, 2006, Function, Duties & Responsibilities of Safety Regulators, Food Safety Management System

Unit-2 Chemical Analysis Preparation :- Acidity Testing, IBU Testing, Specific Gravity, Alcoholic Content Testing, Antioxidant Testing, Post Fermentation Analysis, Colour, Turbidity Testing, pH Testing, Dissolved Oxygen etc.

Unit- 3 Analysis of Adulterants by HPLC :- Basics of HPLC - Sample Preparation, Gradient Making, Parts of HPLC, Troubleshooting and Maintenance, Operating Procedure of HPLC, Run the sample in HPLC. Data Analysis

Unit - 4 Analysis of Adulterants by GC :- Basics of GC - Sample Preparation, Parts of GC, Troubleshooting and Maintenance, Operating Procedure of GC, Run the sample in GC, Data Analysis

Unit-2 Chemical Analysis Procedures :- Procedures For the analysis of Alcohol by volume, Reducing Sugar, Aldehydes, Esters and Organic Acid (Citric Acid, Acetic Acid, Malic Acid, Tartaric Acid) Anthocynin, Total Phenolics, Sorbic Acid, Total Sulfidethanol, methanol, polyphenols, acetaldehyde, glutathione, proteins, several colloids etc

Unit - 5 Sample Analysis : Participants will analyse the following samples

- » Analysis of Total Alcohol in Whisky & Beer
- » Analysis of Sorbic Acid in alcoholic product
- » Analysis of Protein in Alcoholic Product
- » Analysis of Total Phenolics

Major Technology Available Alcoholic Product Analysis :

Analytical HPLC (Agilent Technologies) with PDA & FLD, Gas Chromatography with FID & FPD (Agilent), Preparative HPLC Dual Pump with PDA Detector (Thermo Scientific), Spectrophotometer (Thermo Scientific)

Two Week Training on Amino Acid Analysis

An Initiative of Allele Life Sciences For Skill India Mission



Training on Amino Acid Analysis

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in Amino Acid Analysis.

Amino Acid Workshop will provide hands-on laboratory exercises and instruction on separation and analysis strategies for amino acids / peptides . Participants will integrate theory with practice in areas such as amino acid analysis techniques, chromatography theory and systems, sample preparation, type of columns, column selection, buffer selection, affinity chromatography, ion exchange and high pressure liquid chromatography.

Course Content

Unit-1 Sample Preparation For Amino Acid Analysis :- A preliminary step, required for the proper separation of amino acids and peptides, consists in finding a suitable, partitioning scheme of the extract between various solvents, in order to remove the unwanted compounds, such as: polysaccharides, lipids, phenols and others.

Unit-2 Hydrolysis and Derivatisation of Amino Acid :- Liquid Phase Hydrolysis, Vapour Phase Hydrolysis, Pre Column Derivatisation, Post Column Derivatisation

Unit- 3 Separation of Amino Acids :- Separation of derevited amino acids, Separation of non deriveitised amino acids, Separation of Amino Acid by Chromatography

Unit - 4 Determination of Amino Acid :- Determination of amino acid after hydrolysis, Determination of amino acid before hydrolysis, Protein & Peptide Quantitation by spectrometry, Total Amino Acid Analysis, Free Amino Acid Analysis

Unit - 5 Reverse Phase Amino Acid Chromatography :- Reverse-Phase HPLC Separation of Amino Acid

Unit -6 Amino Acid Analysis of Food or Biological Sample

Technology Available For Amino Acid Analysis :

- » Analytical HPLC (Agilent Technologies)
- » Low Pressure / Fast Protein Liquid Chromatography
- » Preparative HPLC Dual Pump with PDA Detector (Thermo Scientific)
- » Protein Purification System (Biorad Profinia)

2 week Training on Adulterants Analysis in Food Products

An Initiative of Allele Life Sciences For Skill India Mission



About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the food industry. The Training will give an opportunity to have hands-on experience in Food Products Analysis.

Food Analysis Workshop will provide hands-on laboratory exercises and instruction on separation and analysis strategies for adulterants in food samples. Participants will integrate theory with practice in areas such as adulterants analysis techniques, chromatography theory and systems, sample preparation, type of columns, column selection, buffer selection, Gas and High Pressure Liquid Chromatography.

Course Content

Unit-1 Quality Control Procedure For Food Adulterants :- Food Safety & Standards Act, 2006, Function, Duties & Responsibilities of Food Safety Regulators, Food Safety Management System

Unit-2 Food Adulterants Analytical Methods & Sample Preparation :- Food Adulterants & Limits, Analytical Methods for the detection of food adulterants, Sample Preparation for food analysis

Unit- 3 Analysis of Food Adulterants by HPLC :- Basics of HPLC - Sample Preparation, Gradient Making, Parts of HPLC, Troubleshooting and Maintenance, Operating Procedure of HPLC, Run the sample in HPLC. Data Analysis

Unit - 4 Analysis of Food Adulterants by GC :- Basics of GC - Sample Preparation, Parts of GC, Troubleshooting and Maintenance, Operating Procedure of GC, Run the sample in GC, Data Analysis

Unit - 5 Sample Analysis : Participants will analyse the following samples

- » Analysis of BHT in Food Samples
- » Analysis of Benzoic Acid in Food Sample
- » Analysis of caffeine in Beverages
- » Analysis of Mycotoxin in Food Product

Technology Available For Amino Acid Analysis :

- » Analytical HPLC (Agilent Technologies) with PDA & FLD
- » Gas Chromatography with FID & FPD (Agilent)
- » Preparative HPLC Dual Pump with PDA Detector (Thermo Scientific)
- » GC with FID & NPD (Shimadzu)

2 week Training on Forensic DNA Analysis

An Initiative of Allele Life Sciences For Skill India Mission



About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in Forensic DNA Analysis.

Forensic DNA Analysis Training will provide hands-on laboratory exercises and instruction on forensic DNA Analysis strategies for forensic samples, especially DNA. Participants will integrate theory with practice in areas such as DNA Extraction, DNA Analysis, PCR Reactions, Q-PCR Reactions and dHPLC Method for forensic analysis.

Course Content

Unit 1: Sample Collection, Law & Procedures, Record Keeping of Forensic Samples :- 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 2 : DNA Extraction, Quantitation & Optimisation :- Protein Estimation by Lowry Method / BCA Method / Bradford Method

Unit 3: Primer Design, PCR reaction setup, Troubleshooting & Optimisation :- Basics of SDS-PAGE, Acetic-Acid Urea Polyacrylamide Electrophoresis of basic proteins

Unit 4 : STR Analysis of Forensic Samples :- Basics of DNA Profiling, Advantage of STR Marker, Position of STR Marker in Human Chromosome, STR Analysis, Variation of STR among individuals.

Unit 5 : dHPLC Method For Forensic Sample Analysis : - Preparation of Protein sample for **2-D Electrophoresis**, Protein solubility in 2-D Electrophoresis, Disruption of Di-sulphide bridges, Two Dimensional Polyacrylamide Gel Electrophoresis of Proteins using pH Gradient in First Dimension.

Issues & Challenges in Forensic DNA Analysis:

- » Collection, Storage & Characterisation Strategies
- » SDS-PAGE Units (Merk) - 3 Units
- » Western Blot Unit (Merk)
- » UVP White Light Transilluminator
- » Gel Documentation System

Two Weeks Training on Forensic Toxicology Analysis

An Initiative of Allele Life Sciences For Skill India Mission



Training on Forensic Toxicology

The purpose of the training programme is to upgrade skills and generate trained human resource in Forensic Science. The Training will give an opportunity to have hands-on experience in Forensic Toxicology Analysis.

Forensic Toxicology Workshop will provide hands-on laboratory exercises and instruction on forensic toxicology sample analysis strategies for detection of toxic compound in forensic sample. Participants will integrate theory with practice in areas such as sample preparation technique, detection of lethal dose in biological samples, chromatography strategies, method development and validation.

Course Content

Unit 1: Sample Collection, Law & Procedures, Record Keeping of Forensic Samples :- 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 2 : Basics of Forensic Toxicology :- Introduction of Pharmacology, Drug, Poison & Metabolite, Pharmacokinetics of Drug (Liberation, Absorption, Distribution, Metabolism & Elimination), Drug Actions in human body, Forensic Toxicology Analytical Tools & Techniques

Unit 3: Basics of Chromatography :- Basics of SDS-PAGE, Acetic-Acid Urea Polyacrylamide Electrophoresis of basic proteins

Unit 4 : Analytical Method Validation of Drug :- Basics of DNA Profiling, Advantage of STR Marker, Position of STR Marker in Human Chromosome, STR Analysis, Variation of STR among individuals.

Data Analysis & Validation :

- » Applied statistical concepts
- » Data analysis
- » Toxicology reports & case evidence
- » Quality Assurance
- » Method Optimisation

Two Weeks Training on HPLC Method Development and Sample Analysis

An Initiative of Allele Life Sciences For Skill India Mission



About the Training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in HPLC Chromatography and Method Development.

High Performance Liquid chromatography enables reliable, high-precision trace analysis with high repeatability of non volatile assay . HPLC is one of the most widely used techniques for analysing hydrocarbon mixtures. HPLC is widely used in the Pharmaceuticals, Bio-Pharmaceuticals, Food, Agriculture, Environmental, Forensic, Biotech, & Chemical Industries.

Course Content

Unit 1: Introduction to HPLC :- Introduction to chromatography and chromatographic process - four modes of chromatography - reversed-phase, normal phase, ion exchange and size exclusion, Instrument operation each part of an HPLC instrument in detail – including the solvent delivery system, sample injection, connecting tubing and fittings, commonly used detectors

Unit 2: Method Development :- Sample solvents, Column selection, Partition coefficient, Mobile phase selection, Gradients, Effect of flow rate, Temperature effects and Sample preparation.

Unit 3: System Suitability:- Resolution, Efficiency, Asymmetry, Capacity factor, Selectivity, Signal to noise ratio, Precision and accuracy, System suitability limits and manual calculation of parameters, setting up software to perform system suitability calculations

Unit 4: Care of the HPLC System and Columns :- Storing of the HPLC system, Column storage, Changing between mobile phases, Developing a clean-up and shut down method.

Unit 5: Troubleshooting : - Order of troubleshooting, Examples of common problems and causes, Practical examples.

Unit 6: Routine Maintenance Topics include: Theory & practical maintenance of Pumps, Filters, Injector, and Detector.

Unit 7: Hardware / System Validation : - Hardware validation for pumps, degasser, auto samplers, column ovens and detectors, and overall system check.

Unit 8: Method Validation :- Accuracy, Precision, Intermediate Precision, Specificity, Detection limit, Quantification Limit, Linearity, Robustness, Acceptance criteria, Samples with more than one active.

Practical analysis of Sample: Adulteration Analysis, Pharmaceutical Sample Analysis and Biological

Two Weeks Training on GC Method Development and Sample Analysis

An Initiative of Allele Life Sciences For Skill India Mission



About the training

The purpose of the training programme is to upgrade skills and generate trained human resource in the related sector. The Training will give an opportunity to have hands-on experience in Gas Chromatography and Method Development.

Gas chromatography enables reliable, high-precision trace analysis with high repeatability. Gas chromatography is one of the most widely used techniques for analysing hydrocarbon mixtures. GC is widely used in the Food, Agriculture, Environmental, Forensic, Biotech, Fragrance, & Chemical Industries.

Course Content

Unit-1 Introduction to Gas Chromatography:- The theory of GC, The GC System, Column types and packings, Mobile phases, the chromatogram, Familiarisation with the instrument and basic Operation

Unit-2 Method Development :- Approaches to method validation, Frequency and Troubleshooting, Sample Preparation, Column selection, Partition coefficient,, Temperature effects and Sample preparation

Unit-3 System Suitability :- Resolution, Efficiency, Asymmetry, Capacity factor, Selectivity, Signal to noise ratio, Precision and accuracy, System suitability limits and manual calculation of parameters, setting up software to perform system suitability calculations.

Unit-4 Care of GC System & Column :- Storing of the GC system, Column storage, Changing between mobile phases, Developing a clean-up and shut down method.

Unit-5 Troubleshooting:- Order of troubleshooting, Examples of common problems and causes, Practical examples.

Unit-6 Routine Maintenance :- Routine Maintenance Topics include: Theory and practicals, Flow Check, Column Change, Filters, Injector, and Detector.

Unit-7 Hardware / System Validation:- Hardware validation for injectors , Oven Temperature , auto samplers, Gas Ports and detectors, and overall system check.

Unit-8 Method Validation:- Instrument Detection Limits and Method Quantitation Limits, Accuracy, Precision, Intermediate Precision, Specificity, Detection limit, Quantisation, Limit, Linearity, Robustness, Acceptance criteria, Samples with more than one active.

Practical analysis of Sample: Food Adulteration Analysis, Pharmaceutical Sample Analysis and Fragrance



ADVANTAGE

- » Industry Standard Content
- » Flexible Timings of your choice
- » Different Array of samples for analysis
- » Industry Standard Lab Facility

FORENSIC DNA PPLICATIONS

DNA Analysis strategies for forensic samples, especially DNA. Participants will integrate theory with practice in areas such as DNA Extraction, DNA Analysis, PCR Reactions, Q-PCR Reactions and dHPLC Method for forensic analysis.



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Location : C - 59,, Sector - 10, NOIDA, UP - 201301

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Registration: Before 15 Days of your expected date of joining

Course Note: Each attendee will receive a training package , a course manual for future reference and most importantly a certificate of attendance. The certificate of attendance may be of relevance and significance as an evidence of your training .

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Contact: +91- 9891179928

Course Confirmation will be send to the participants E.mail & Mobile.

How to Register For Workshop : Click over the link and Follow the procedure given in registration .

www.allelelifesciences.com/training/registration-form.pdf

Address :

Allele Life Sciences Private Limited.

C-59, Sector-10, Industrial Area, NOIDA, UP - 201301

[Google Map to Follow](#)

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