

PROTEIN ANALYSIS SERVICES



- **Protein Extraction Services**
- **Protein Purification**
- **Protein Estimation**
- **Protein Electrophoresis & Blotting**
- **Protein Identification Services**
- **Amino Acid Analysis**



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PROTEIN EXPRESSION & EXTRACTION

We listen to your requirements, understand your purposes, discuss with you about the possibilities, design and optimise the strategies, and walk you through your research projects. Your *custom protein expression* will be optimised by engineering an expression construct with a codon-optimised DNA insert, a strong promoter, an efficient ribosome binding site, a high copy number and combining it with an appropriate host.



SERVICES

Steps	Process	Details
Step-1	Insilico Designing	Bioinformatics analysis of Gene of Interest
Step-2	Codon Optimisation	Selection of Plasmid, Vector and Gene Senthesis
Step-3	Cloning & Sub cloning	Sub Cloning into suitable expression vector
Step-4	Cell Transformation	Transformation into an appropriate host
Step-5	Screening Studies	Screening for the best expressing protein variant
Step-6	Protein Production	Expression Evaluation & Optimisation of protein
Step-7	Quality Control Analysis	SDS - PAGE Analysis & Q.C Report
Step-8	Protein Characterisation	Analysis by ELISA, Western Blot (Client Specification)

OUR PACKAGE INCLUDE:

- All clones and sub-clones generated
- All-inclusive from cloning to purification
- Sequence data of the final clone
- Guaranteed yield: 3 mg purified protein
- Guaranteed purity: > 75 % protein purity
- Quality assurance certificate
- Pay only when we succeed!

AVAILABLE FOR ADDITIONAL COST :

- **Sequence Verification by Mass Spectrometry**
- **Endotoxin Quantification**
- **Endotoxin Removal**

PROTEIN PURIFICATION SERVICES

Protein purification is a crucial step for projects involving research on structural and functional properties. The quality of the protein cannot be compromised.

A successful protein purification relies on optimised purification protocols. Depending on the requirements and nature of the protein, targeted purification protocols can be developed



SERVICES WE OFFER :

- **Affinity Chromatography (IMAC, GST Tagged Purification, Talon resin, Glutathione Sepharose, Heparin Sepharose, Streptavidin Sepharose, anti-Flag, Protein A, Protein G)**
- **Ion Exchange Chromatography (Mono-Q, Q Sepharose Fast Flow, Resource Q, Q Sepharose XL, ANX, DEAE Sepharose, SP Sepharose, CM Sepharose)**
- **Hydrophobic Interaction Chromatography Phenyl and (CH₂)_n Sepharose)**
- **Size Exclusion Chromatography**

Endotoxin Removal Service: We at Allele Life Sciences manage endotoxin removal from the first purification step. Starting with exhaustively cleaned and validated equipment, we use detergent-free chromatography methods to lower endotoxin levels.

WE DELIVER :

All custom purified proteins are supplied to the following:

- Specified protein concentration
- Special formulation to prevent protein from degradation
- Custom aliquoting as specified by customer
- Vigorous QA/QC to ensure the highest quality and reproducibility
- Certificate of analysis as specified by customer

EQUIPMENT AVAILABLE FOR PURIFICATION

- Akta Prime FPLC in temperature controlled environment
- Biorad Profinia For Affinity Purification
- Preparative HPLC
- Agilent HPLC

PROTEIN ESTIMATION SERVICES

Protein quantification is necessary to understand the total protein content in a sample. Careful selection of the protein quantification method is required to ensure accurate data .

Our scientists are experts in the selection of protein quantification assays and committed to deliver the best and reliable data to our clients.



SERVICES WE OFFER :

- **Total Protein Estimation by BCA / Bradford Assay**
- **Absolute Quantification of purified protein**
- **Relative Quantification of protein in mixture**
- **Absolute Qualification of single protein in mixture**
- **Quantitative Analysis of amino acids**

WE DELIVER :

All custom purified proteins are supplied to the following:

- Specified protein concentration
- Special formulation to prevent protein from degradation
- Custom aliquoting as specified by customer
- Vigorous QA/QC to ensure the highest quality and reproducibility
- Certificate of analysis as specified by customer

EQUIPMENT AVAILABLE FOR QUANTITATION

- Agilent / Varian UV-Vis Spectrophotometer
- Thermo Helios Spectrophotometer
- Agilent HPLC

PROTEIN ELECTROPHORESIS & BLOTTING SERVICES

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SERVICES WE OFFER :

- Protein SDS-PAGE Gel Electrophoresis
- Iso Electric Point
- 2-D Gel Electrophoresis
- Western Blot Analysis
- Image Analysis

Common Stains and Dyes used for 2D SDS PAGE

Stain / Dye	Associated Residue	Sensitivity	MS Compatibility
Coomassie Blue	Arginine Lysine	Good	Good
Deep Purple	Primary Amines	Excellent	Good
Sypro Ruby	Primary Amines	Excellent	Good
Minimal Cy	Lysine	Excellent	Challenging

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- Specified protein concentration
- Special formulation to prevent protein from degradation
- Custom aliquoting as specified by customer
- Vigorous QA/QC to ensure the highest quality and reproducibility
- Certificate of analysis as specified by customer

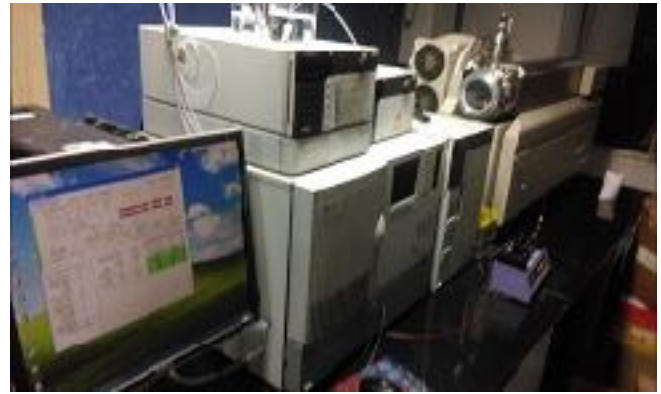
EQUIPMENT AVAILABLE FOR PURIFICATION

- GE-Amersham Electrophoresis For Iso Electric Focusing (IEF)
- Biorad Power-pac HV (upto 5000 Volts)
- Western Blot Assembly
- SDS-PAGE Assembly

PROTEIN IDENTIFICATION SERVICES

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PROTEIN IDENTIFICATION BY CHROMATOGRAPHY :

- » Purity Analysis by RP- HPLC
- » Protein identification by Ion Exchange Chromatography
- » Protein identification by size exclusion chromatography
- » Protein deglycosylation analysis
- » Spectrofluorometric characterisation

PROTEIN ANALYSIS BY MASS SPECTROMETRY:

- » Protein identification by MS - MALDI-TOF/TOF
- » Protein identification by MS - Electrospray (LC/MS/MS)
- » De Novo Protein Sequencing
- » iTRAQ analysis
- » Protein Mass analysis
- » Amino Acid Analysis (AAA)
- » N-Terminal Protein Sequencing

EQUIPMENT AVAILABLE FOR PROTEIN IDENTIFICATION

- Akta Prime FPLC in temperature controlled environment
- Biorad Profinia For Affinity Purification
- Preparative HPLC
- Agilent HPLC with PDA, FLD & ECD Detectors
- LC-MS-MS
- GC-MS-MS

AMINO ACID ANALYSIS

Amino acid analysis is a biochemical technique used for the determination of the amino acid composition or content of proteins, peptides and other pharmaceutical or biological preparations. During Amino Acid Analysis, proteins and peptides are hydrolysed to their component amino acids which are then separated by HPLC, detected by UV or fluorometry and quantitated.



SERVICES WE OFFER :

- Amino acid profile
- Amino acid profile with hydroxyproline and taurine
- Aromatic amino acids (AAAs) are amino acids; Tryptophan, Phenylalanine, and Tyrosine
- High sensitivity AAA
- Total Cys (cysteine + cystine) analysis
- Amino Sugar Analysis
- Standard protein hydrolysate
- Physiological or plasma amino acid profile
- Free amino acid profile
- Aminothiol analysis
- Glutamine/Asparagine Analysis
- Urine, Free form AAA
- Other Amino Acids

WE OFFER SERVICES FOR:

We provide amino acid analysis services for Physiological, metabolic samples, Food products, Dairy products, Food stuffs, Raw materials, Pharmaceutical products, Synthetic peptides, Waste products, Plants etc.

AMINO ACID ANALYSIS PROCESS:

- Hydrolysis
- Derivatization
- Separation of derivatized amino acids
- Data Interpretation and calculation

EQUIPMENT AVAILABLE FOR PURIFICATION

- Agilent HPLC with Binary Pump, Autosampler and UV-Vis PDA Detector
- Agilent HPLC with Binary Pump, Autosampler and FLD Detector
- Preparative HPLC
- Low Pressure LC for Ion Exchange Chromatography

Terms & Conditions

Services: The Sample Submittal Form specifies the service requested by Customer and the information needed by Allele Life Sciences to perform the services. The provision of the Services is governed solely by the terms and conditions of this Agreement. Allele Life Sciences will provide the results in the time requested by Customer, unless otherwise notified by Allele Life Sciences . Customer cannot cancel an order if Allele Life Sciences has commenced the Services. In the event that the Customer has requested a retest of the sample and the repeat testing reveals that the initial result (i) is not the result of laboratory error, failure or omission or (ii) arises from a lack of validation with the product sample matrix and/or extraction method, Allele Life Sciences will charge Customer 75 % of the list price of the procedure utilized. Conversely, if the retest reveals laboratory error, failure or omission, there is no charge for the repeated test.

Pricing: The prices for the Services provided Allele Life Sciences shall be determined by the nature of the Services provided and will be agreed upon by Customer and Allele Life Sciences prior to the initiation of the Services.

Payment: Allele Life Sciences will charge 75 % in advance against the invoice raised to the customer and remaining 25 % at the time of delivery of results.

Limited Warranty: Allele Life Sciences will examine the samples using techniques in accordance with life sciences / pharmacopoeial monographs, where applicable. In the event that Allele Life Sciences breaches this warranty, Customer's sole remedy is a full refund of the fee for the Services and to have the sample re-analyzed at no cost to Customer. The warranty is void if the information provided to Allele Life Sciences in the Sample Submittal Form is not accurate or complete .

Limitation of Damage: Allele Life Sciences maximum liability shall not exceed the amount paid for the services .

Jurisdiction: Any dispute, claim or controversy between the parties arising out of or relating to this Agreement shall be submitted to the jurisdiction of Delhi court.

Miscellaneous: This Agreement and the Sample Submittal Form are the complete and exclusive statement of the agreement between Allele Life Sciences and Customer and supersedes any proposal, prior agreement, oral or written, and any other communications between the parties. The warranty provided in this Agreement is for the benefit of Customer and Customer may not pass the warranty on to any third party.

Signed By Both The Parties

NON DISCLOSURE AGREEMENT

It is the desire of the first and second party to have share information and have discussions relative to investigating the feasibility and advisability of preparing and conducting clinical studies or any other business related activities. In the course of those discussions, both parties may be disclosing to each other, information regarded as being confidential or proprietary. For purposes of this Agreement, all information exchanged which is regarded as confidential or as being otherwise proprietary in nature shall be collectively referred to herein as "Confidential Information." The existence of this Agreement and the terms set forth herein shall be considered Confidential Information.

Accordingly, for mutual protection, we ask that this Agreement be reviewed and executed prior to exchanging any Confidential Information by meeting or by any other arrangement. It is understood that all Confidential Information provided pursuant to the terms hereof, which the disclosing party regards as being confidential or proprietary, shall be identified or marked as "Confidential." Oral disclosures of Confidential Information shall be confirmed by reducing the disclosures to writing and providing the writing to the receiving party within thirty (30) days from the date of the oral disclosure.

With respect to all Confidential Information disclosed to each other by both parties, during the term of this Agreement, the party receiving same hereby agrees to keep, hold, and maintain in confidence all such Confidential Information, of every kind and character, and not to disclose, directly or indirectly, to any third party, or otherwise make use of said Confidential Information other than as contemplated by this Agreement, without the prior written consent of the disclosing party, except that the receiving party may disclose Confidential Information to those of its agents, consultants, and legal and financial advisors (collectively "Representatives") who have a need-to-know such information for the purposes hereof and who are bound by like obligations of confidentiality and non-use.

The obligations of confidence and non-use assumed by both parties to this agreement, hereunder **shall not apply to:**

- information which at the time of disclosure is in the public domain; or
- information which thereafter lawfully becomes a part of the public domain other than through disclosure by or through the receiving party; or
- information which is already in the possession of the party receiving same as shown by its written record; or
- information which is lawfully disclosed to either party by a third party not under an obligation of confidentiality to the disclosing party with respect to said Confidential Information; or information which is subsequently developed by an employee or agent of the receiving party without actual knowledge of the disclosure; or
- information which the receiving party must disclose pursuant to applicable laws, regulations or court order, provided that the receiving party gives the disclosing party reasonable notice of its intent to disclose such information. information which is disclosed by the recipient with the written approval of either of the aforesaid parties.

Neither party shall use the name of the other party in any discussions with third parties (other than Representatives), advertising, press release, sales literature, or fundraising efforts without the prior written consent of the other party. In the event the disclosing party gives the receiving party prior written consent to disclose Confidential Information received from the disclosing party to any third party, other than Representatives, the receiving party hereby agrees to obtain written agreements from any such third party to whom the receiving party discloses such information, similar in form and substance to this Confidentiality Agreement, for the benefit of the disclosing party.

This Agreement is entered for a period of three (3) years from the date of signing of this agreement and is governed by and shall be construed in accordance with the laws of India.

By signing this agreement, both parties confirm that the terms contained herein are acceptable to them.

SAMPLE SUBMISSION FORM

CUSTOMER INFORMATION

Name :

Address :

Phone :

E.mail :

SAMPLE INFORMATION

#	Analysis Required	Sample Information	No. of Samples	MSDS
				Y/N

ANALYSIS INSTRUCTION

AUTHORIZATION SIGNATURE

DATE

For Office Use Only	Comment	
Received By		Date
Forwarded to		Date

MSDS QUESTIONNAIRE

Description of Sample(s):	
Material Composition/List of Ingredients?	
Is License required to handle sample?	
Is the sample a Biological Agent?	
Is Sample Radioactive?	
Physical Characteristics?	
Hazard/Transportation Labels?	
Does your Institution specify any specific Personal Protective Equipment (PPE) to your staff for handling sample(s)?	
Does your company specify any specific Sample Containment?	
Does your company specify any specific Sample Containment?	

OTHER INSTRUCTION



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