

Amino Acid Analysis Sample Preparation Guidelines

Sample Preparation

- The sample should contain 5 micrograms or more of the protein to be analysed.
- The sample can be submitted dry, in solution or blotted onto PVDF membrane.
- Purity of the sample is critical. The following types of contamination will interfere with the analysis: proteins, amino acids such as glycine and arginine, buffers and salts. A 10% protein contamination can make your results meaningless. Tris, HEPES, glycerol and other primary and secondary amines must be avoided completely.
- Low molecular weight solutes can be removed by dialysis (if you have sufficient protein), by reversed phase HPLC or by loading onto a ProSorb filter (PE Biosystems) and washing the PVDF membrane well with 0.1% TFA.
- For best results samples should be supplied in Milli-Q water, PBS, phosphate buffer or dried. If your protein is not readily soluble, please inform us as this may greatly influence quantitation.

Samples for Quantitation

High Sensitivity Amino Acid Analysis

Pure proteins are usually supplied in solution for quantitation and the above conditions apply. An aliquot will be taken and dried down before gas phase hydrolysis.

Note: Analysis from PVDF is not quantitative, however, it can provide an estimate of the amount of protein present.

Quantitative Amino Acid Analysis

Dry samples such as food products, protein and synthetic peptides need to be supplied in sufficient amounts to weigh accurately. At least 1g of food product is needed and several milligrams of synthetic peptides or protein samples. These undergo a liquid hydrolysis for accurate quantitation.

NOTE:

- Acid hydrolysis converts asparagine and glutamine to aspartic and glutamic acid respectively. That is, the amino acid analysis result for Asp is a total of Asp + Asn and the result for Glu is Glu + Gln.
- For unusual amino acids, such as hydroxyproline, taurine, Norleucine and Hydroxylysine please

Tryptophan Analysis

- Tryptophan is destroyed by acid hydrolysis and requires a separate analysis using base hydrolysis.

Cysteine Analysis

- Cysteine determination also requires a separate analysis. It is analysed as cysteic acid after oxidation with performic acid.

Free Amino Acid Analysis

- Free amino acid analysis is used to analyse samples that do not require hydrolysis.

Pathogenicity

Biological samples coming into APAF should be accompanied by documentation of potential pathogenicity or pathogen free status otherwise APAF will presume all samples from human and animal origin are potential pathogens and will be treated accordingly.

Sample Request Forms

Once you have followed all the guidelines you can fill out Amino Acid Analysis Request Form and sent to Bio-Synthesis, Inc. 612 E. Main Street, Lewisville, Texas 75057 Attn: Analytical Lab.

AMINO ACID ANALYSIS ORDER FORM

CLIENT SHIPPING INFORMATION	CLIENT BILLING INFORMATION
Date : _____	Account Payable Contact: _____
Principal Investigator: _____	Dept/Company: _____
Institution: _____	Bill to Address: _____
Ship to Address: _____	_____
_____	_____
_____	Phone: _____
Phone: _____	Fax: _____
Fax: _____	PO# or Credit Card: _____
Email: _____	Credit Card Exp. Date: _____ CVV: _____

Sample Description (e.g. solution phase, solid, resin-bound, or other [specify]):

Please Indicate Buffer/Solvent Components of Sample: _____

Estimated Molecular Weight: _____

Estimated Amount of Sample Provided (mg, mol, etc.): _____

Additional Analyses Requested (each charged as a separate analysis):

- Second time point for Ser and Thr
- Trp
- Cysteine
- Total cysteine plus half-cystine

Other Information/Requirements: _____



Post Office Box 28
Lewisville, Texas 75067 USA
Phone: 972.420.8505
Toll Free: 800.227.0627
Fax: 972.420.0442
info@biosyn.com
www.biosyn.com

SERVICE AGREEMENT

Service:

Bio-Synthesis, Inc. (BSI) endeavors to provide timely, quality service, with rapid return of analytical results and/or samples to the Client (the Investigator requesting services to be performed). BSI will promptly notify the Client of any unexpected delays. BSI personnel will follow applicable written protocols for all services provided. BSI will provide proof of accepted analytical techniques, as requested by the Client. BSI will provide data and/or summary sheets of all results obtained.

Payment:

In exchange, the Client agrees to pay in full, for the services delivered to client in full within 30 days of receiving BSI's invoice for the services performed. BSI makes no expressed or implied warranties for the results that are obtained and unless there is an instrument malfunction, a technician error, or some fault directly attributable to BSI. **PAYMENT IN FULL IS EXPECTED UNLESS PREVIOUS ARRANGEMENTS ARE MADE WITH BSI.** BSI will not be held liable for results obtained with Clients samples. BSI expressly guarantees to perform all its procedures with professional diligence, and strives to perform quality work acceptable to all its Clients.

Date of this Agreement: _____

Heidi Fazeli
Sales Director
Bio-Synthesis, Inc.
612 E Main
Lewisville, TX 7057

Client Signature: _____

Client Name: _____

Title: _____

Company Affiliation: _____