



SERAPREP™ and URIPREP™

INTRODUCTION

Native amino acids are those found “free” in samples such as serum, urine and other physiological fluids, plant extracts, foods and beverages. Although preparation of these samples for amino acid analysis is much simpler and less time-consuming than protein hydrolysis, control of pH and normality, and removal of soluble protein are critical factors which can affect the chromatography.

The early-eluting amino acids — taurine, urea, aspartic acid, threonine, serine, etc. — are particularly sensitive to pH and normality. Accordingly the samples must be held to a narrow pH range between 2.1 and 2.5, and the proper lithium ion concentration to ensure reproducibility in the early part of the chromatogram. The later-eluting compounds are more tolerant of initial sample conditions, and their retention times are not as likely to be affected.

SERAPREP and URIPREP replace commonly-used protein precipitation reagents such as acetonitrile, perchloric acid and picric acid, and eliminate the need for dialysis, ultrafiltration, and repeated centrifugation steps, followed by pH adjustment.

SAMPLE PREPARATION USING SERAPREP OR URIPREP

Use SERAPREP for preparing **serum** and other samples with a high buffering capacity, e.g. sardine oil. Use URIPREP for preparing **urine** and other samples with low buffering capacity, such as fruit juices, musts and warts. The efficiency of protein precipitation and the need for post-centrifugation pH adjustment of the sample determine which reagent is best for your particular sample.

1. In a microcentrifuge tube thoroughly mix equal portions of sample and SERAPREP or URIPREP.

Reagents for the Preparation of Native Samples for Amino Acid Analysis by Lithium Ion-exchange

2. Let stand for 5 minutes. Centrifuge the mixture at 13,000 rpm for 5 minutes. Check the supernate pH to ensure that the range is pH 2.3±0.2. Adjust the initial mixing ratio as necessary.
3. Filter the supernate with a syringe filter (0.2 or 0.45 µm). The filtrate is ready to be injected into an auto-sampler vial for amino acid analysis.
4. If further dilution is needed, use Li 220 to adjust the concentration of analyte.



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