



CERTIFICATE OF ANALYSIS

Native Sample Calibration Standard (Without Norleucine and α -amino- β -guanidinopropionic acid) For Lithium Systems 1700-0170

Product: Native Sample Calibration Standard (without Norleucine and α -amino- β -guanidinopropionic acid) for Lithium Systems

Part Number: 1700-0170

Lot Number: 903003

Test Start Date: 3/10/2009

Primary Application: This calibration standard is a solution of 42 amino acids and ammonia in 0.27 N Lithium citrate buffer, pH 2.36, with 0.08% phenol added as a preservative. This calibration standard is intended to be used for calibration of chromatographic instrumentation for determination of amino acids.

Acceptance Criteria: The concentrations for 42 amino acids and ammonia are within \pm 4% of those stated below. These values are based on the results of HPLC analysis using certified NIST amino acids standard and Sigma amino acids standard.

Compound	Concentrations μ M/mL
β -Alanine	0.25
Alanine	0.25
D,L- α -amino-adipic acid	0.25
γ -Amino-butyric acid	0.25
α -Amino- <i>n</i> -butyric acid	0.25
D,L- β -Amino- <i>i</i> -butyric acid	0.25
Ammonia	0.25
Anserine	0.25
Arginine	0.25
Asparagine	0.25
Aspartic acid	0.25
Carnosine	0.25
Citrulline	0.25
Creatinine	0.25
Cystathionine	0.25
Cystine	0.25
Ethanolamine	0.25
Glutamic acid	0.25
Glycine	0.25
Histidine	0.25
D,L-Homocystine	0.25

Compound	Concentrations μM/mL
D,L&allo-Hydroxylysine	0.25
4-trans-L-Hydroxyproline	0.25
Isoleucine	0.25
Leucine	0.25
Lysine	0.25
Methionine	0.25
1-Methyl-histidine	0.25
3-Methyl-histidine	0.25
Ornithine	0.25
Phenylalanine	0.25
o-Phosphoethanolamine	0.25
D,L-o-Phosphoserine	0.25
Proline	0.25
Sarcosine	0.25
Serine	0.25
Taurine	0.25
Threonine	0.25
Tryptophan	0.25
Tyrosine	0.25
Urea	0.25
Valine	0.25

Analysis Certified by:  Date: 11 MAR 2009
VP Ops
 Title

ACCEPTED
 PICKERING LABORATORIES, INC.
 QUALITY ASSURANCE