



## CERTIFICATE OF ANALYSIS

### Amino Acids Calibration Standard (acidics and neutrals) 1700-0180

**Product:** Amino Acids Calibration Standard (acidics and neutrals)

**Part Number:** 1700-0180

**Lot Number:** 202012

**Production Date:** 17 Feb 2012

**Expiration Date:** 17 Feb 2015

**Primary Application:** This calibration standard is a solution of 27 amino acids in 0.1N Hydrochloric acid. This calibration standard is intended to be used for calibration of chromatographic instrumentation for determination of amino acids.

**Acceptance Criteria:** The concentrations for 27 amino acids 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 $\mu\text{M}/\text{mL}$
$\beta$ -Alanine	2.5
Alanine	2.5
D,L- $\alpha$ -amino-adipic acid	2.5
$\gamma$ -Amino-butyric acid	2.5
D,L- $\beta$ -Amino- <i>i</i> -butyric acid	2.5
Asparagine	2.5
Aspartic acid	2.5
Citrulline	2.5
Cystathionine	2.5
Cystine	1.25
Glutamic acid	2.5
Glycine	2.5
4-trans-L-Hydroxyproline	2.5
Isoleucine	2.5
Leucine	2.5
Methionine	2.5
Phenylalanine	2.5
<i>o</i> -Phosphoethanolamine	2.5
D,L- <i>o</i> -Phosphoserine	2.5
Proline	2.5
Sarcosine	2.5
Serine	2.5
<b>Compound</b>	<b>Concentrations</b>

	$\mu\text{M}/\text{mL}$
Taurine	2.5
Threonine	2.5
Tyrosine	2.5
Urea	2.5
Valine	2.5

Analysis Certified by: Jim Murphy Date: 17 Feb 2012

**Production Manager**

Rev. 2, 11/28/2011