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Nestlé Quality Assurance Center  
Dublin

# Technical Datasheet

**Analysis Name:** Free Amino Acids by UPLC

**Method Number:** LI-00.562

**Scope of Application:** This method applies to the determination of free amino acids (except tryptophan), in protein hydrolysates, clinical nutrition, infant formulas, infant cereals and similar products, coffee/tea and related products, amino acid premixes, juice concentrates, purees, pulps, and vegetable products (e.g., carrots, sweet potatoes). It also applies to added methionine in soy-based infant formulas.

**Description:** Aqueous extraction of free amino acids with or without clarification using trichloroacetic acid (TCA). Determination of amino acids by derivatization with 6-aminoquinolyl-N-hydroxysuccinimidyl carbamate (AQC) using the AccQ•Tag Ultra Method (Waters Corporation, Milford, MA, USA). Derivatized amino acids are separated using reversed phase UHPLC with UV detection at 260 nm.

**Sample Weight Required:** 50 g

**Analytical Platform:** UPLC

**Special Information:** N/A

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility*
Alanine		mg/100 g	5	15%
Arginine		mg/100 g	5	15%
Asparagine GOTAG		mg/100 g	5	15%
Aspartic Acid		mg/100 g	1	15%



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Cystine		mg/100 g	5	15%
G-Aminobutyric acid GOTAG		mg/100 g	5	15%
Glutamic Acid		mg/100 g	1	15%
Glutamine GOTAG		mg/100 g	5	15%
Glycine		mg/100 g	1	15%
Histidine		mg/100 g	5	15%
Isoleucine		mg/100 g	5	15%
Leucine		mg/100 g	5	15%
Lysine		mg/100 g	5	15%
Methionine FREE_METH		mg/100 g	5	15%
Ornithine GOTAG		mg/100 g	5	15%
Phenylalanine		mg/100 g	5	15%
Proline		mg/100 g	50	
Serine		mg/100 g	1	15%
Theanine GOTAG		mg/100 g	5	15%
Threonine		mg/100 g	1	15%
Tyrosine		mg/100 g	5	15%
Valine		mg/100 g	5	15%

\*Reproducibility: 17% for premixes